

# SCHOOL MANAGEMENT

Education Library

April 1961

PRACTICAL SOLUTIONS TO SCHOOL MANAGEMENT PROBLEMS

## A BUYER'S GUIDE TO EDUCATIONAL TV

A simple way  
to measure  
your district's  
financial effort

HOW EIGHT  
SCHOOL  
DISTRICTS  
WORK  
TOGETHER

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4  
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7

## HOW TO HOUSE A COMMUNITY COLLEGE



SEE COMPLETE CONTENTS ON PAGE 2





*From Armstrong: a giant step in fire-retardant ceilings*

**Now, for new schools: two types  
of Acoustical Fire Guard—12" x 12" tiles  
and exclusive new lay-in units**

**I**n the school corridor on the left you see the new Armstrong Acoustical Fire Guard *lay-in* ceiling system. The classroom has a ceiling of Acoustical Fire Guard *tile*.

This was the first time-design-rated acoustical tile. Since its development two years ago, millions of feet have been installed.

The new lay-in system is another great advance in fire-retardant ceilings.

**Three-hour U.L. rating**

The Armstrong Acoustical Fire Guard lay-in ceiling system combines the advantages of an exposed grid system—economy and fast installation—with those of a time-design-rated acoustical ceiling. It protects the structural components of a building by resisting the dangerous transmission of heat from one area to another. Underwriters' Laboratories, Inc., has given this new ceiling system a beam protection rating of three hours. Floor-ceiling assemblies combining this system with bar joist and slab, as well as with beam and steel floor construction, earned two-hour ratings.

**Resists 2,000-degree heat**

The Acoustical Fire Guard lay-in ceiling system achieves its remarkable fire-retardant quality through two new developments.

The first is the Acoustical Fire Guard lay-in unit. Because of its composition, this new lay-in unit can withstand exposure to flames and 2,000-degree heat. It also offers excellent acoustical and sound attenuation properties.

The second element is a new suspension system capable of withstanding the same extreme conditions as the lay-in unit. Called the Armstrong Acoustical Fire Guard Grid Suspension System,\* it is designed to accommodate the expansion of both main runners and cross-tees, and thus to hold the lay-in unit securely in place when exposed to fire. The Fire Guard Grid Suspension System is the first to be combined with a lay-in ceiling unit to offer rated fire protection. Both the lay-in unit and the grid system carry the U.L. label.

**Economy in time and money**

In most cases, the new lay-in ceiling system will cost even less than ordinary plaster ceilings on metal lath. And like Fire Guard tile, it can save builders up to *two months'* construction time because it goes in dry. This is especially important in school construction. Schools *must* open on time. Fire Guard helps meet deadlines — at savings of thousands of dollars.

The Acoustical Fire Guard lay-in ceiling system is now available in both a Fissured and the popular Classic designs. There are two nominal sizes: 24" x 24" x 5/8" and 24" x 48" x 5/8".

For more information about either Acoustical Fire Guard tile or lay-in units, call your Armstrong acoustical contractor (he's in the Yellow Pages under "Acoustical Ceilings") or your nearest Armstrong District Office. Or write to Armstrong Cork Company, 4204 Ross Street, Lancaster, Pennsylvania.

\* Patent Pending

**Armstrong ACOUSTICAL CEILINGS**  
*First in fire-retardant acoustical ceilings*

Architectural design and  
rendering by Helmut Jacoby

(Circle number 769 for more information)



# SCHOOL MANAGEMENT

April 1961

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**Editor:** Paul Abramson; **Feature Editor:** Peter S. Calisch; **News Editor:** Bernard E. Weiss; **Art Director:** Laurence Lustig; **Production Manager:** Virginia E. Ray; **Art Production Manager:** Joan Longnecker; **Copy Editor:** Mary Kring; **Production Assistant:** Elaine Lesta; **Associates:** Dr. Orlando F. Furno, *Educational Research*; Richard Flambert, *Food Service*; Dr. Stephen F. Roach, *School Law*; **Circulation:** James Vinisko, *Supervisor*; Marie LaGuardia.

#### Advertising Offices

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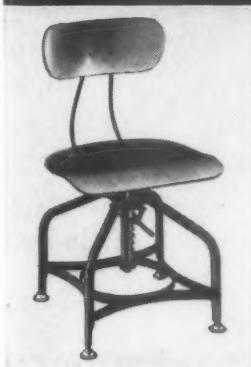
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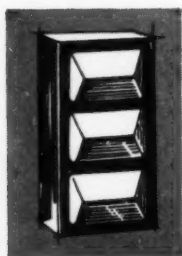
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OSU School of Dentistry  
OSU Mobile Science Unit  
Ohio University  
University of Toledo  
University of Dayton  
University of Maryland  
East Carolina College  
University of New Mexico  
Indiana University  
Fisk University  
University of Arkansas  
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# New teaching versatility and ease of operation are yours in *Electrofonic* Language Lab

We asked experienced language teachers what equipment they needed to achieve maximum effectiveness in their work. Then our electronic experts designed and built the G. E. C. Electrofonic Language Laboratory to the teachers' specifications. That's why it's more than a mere assembly of existing

audio-visual equipment. It's a new, integrated design that provides a complete choice of functions to fit any teaching technique. Yet it has unprecedented simplicity of control. Schools using the Electrofonic Language Lab are enthusiastic about it. Here are some of the reasons why:

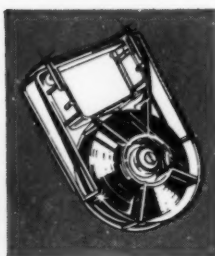
## EASIER TO OPERATE



Simplified controls leave the teacher free to teach and the student free to learn. Both are relieved of undue preoccupation with mechanical problems. The teacher can play lesson tapes, monitor or talk to individual students, small groups or the entire class—all with fingertip controls

that indicate settings clearly. The mechanical operations soon become automatic to both teacher and student. Simplicity makes it possible to use student assistance if desired.

## NO TAPE HANDLING PROBLEMS



Instant tape handling is provided by the Electrofonic cartridge system. Threading is automatic when the cartridge is inserted in either the teacher console or student unit. There is never any rewinding. Tapes are automatically set for the beginning of the next lesson.

Even new students can operate recording and tape playing equipment quickly, leaving more time for learning. Teachers find it easy to record and duplicate their own lesson tapes.

## HIGH FIDELITY

Full range reproduction is important in foreign language learning. The Electrofonic system is "hi-fi" throughout, including student microphones and headsets. Students hear and learn to use all the overtones and fine shadings of tone that are present in accurate, native pronunciation of a foreign language.



## COMPLETE TEACHING FLEXIBILITY

Complete choice of teaching techniques is possible with the Electrofonic Language Lab. Students may listen, respond, and record. The teacher may play any combination of lesson tapes to individuals, small groups or the entire class. The teacher may silently monitor any student or group or may talk with any combination of students. Teacher and students can record easily. Student drill is simple, convenient and effective.





*Electrofonic* Lab is simple to use, easy to expand and economical to operate

#### JUST PLUG IT IN

Fully transistorized Electrofonic Lab has such low power consumption that it can be plugged into an ordinary, existing classroom circuit. Special wiring is eliminated. Absence of vacuum tube heat makes special air conditioning unnecessary.

#### START SMALL, ADD UNITS LATER

The elements of the complete Electrofonic Language Lab are designed as modules that can be combined or expanded as desired.

#### LONG-TERM ECONOMY

Transistorized design means a smaller electric bill and eliminates frequent checking and replacement of vacuum tubes. Quality construction throughout will keep maintenance costs at a minimum.

#### WE'D LIKE TO TELL YOU MORE

Our language laboratory consultants will be glad to discuss your requirements with you or your architect, and make recommendations with no obligation to you.

A new 8-page brochure giving more details on the Electrofonic Language Lab is yours for the asking.

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*A sampling of correspondence across the editor's desk.*

### New high

SIR: The latest Cost of Education Index (*SM*, Jan. '61) sets a new high in educational research in this country for its current validity, and for the important information it gives all school administrators on what is now happening in American education.

We would like very much to have sufficient copies of the publication for each of our board members to have one.

O. W. MARCOM  
SUPERINTENDENT  
LEVELLAND, TEX.

### Really significant

SIR: You have developed something that is really significant in analyzing the cost of education. We find the information to be useful since it is possible to make comparisons with different types of communities and different regions.

PHILIP U. KOOPMAN  
SUPERINTENDENT  
LOWER MERION, PA.

### Much interest

SIR: . . . I've read it with much interest . . .

HARRY S. TRUMAN  
INDEPENDENCE, MO.

### Legislative help

SIR: . . . This basic research will be a real contribution to the work of the House Committee on Education and Labor and to the better understanding of educational problems on the part of all of us who must deal with them at the legislative level.

REPRESENTATIVE EDITH GREEN  
MEMBER, HOUSE COMMITTEE ON  
EDUCATION & LABOR  
WASHINGTON, D.C.

### Comprehensive study

SIR: I think the potentials of this CEI are simply fabulous. Along these lines, I have written the following letter to Mr. Charles F. Diefendorf, Chairman of the Joint Legislative Committee on School Financing of New York State:

"I have just completed a comprehensive study of our school district's 1960-61 budget in light of

the Cost of Education Index as published in *SCHOOL MANAGEMENT*.

"I firmly believe this method of examination of school expenditures would be of great value to your committee. The results could substantiate—or, in reverse, prove unnecessary—the need for further state or federal aid to school districts.

"Economists have used various indexes to study individual, business, corporate, municipal, and other expenditures for many years. Here, now, is a tool for the individual school district to use. I firmly believe your committee should examine this carefully and I could only hope this Cost of Education Index would be a *must* for every school district in New York State prior to any action by your committee."

MRS. LEO A. WUORI  
SCHOOL BOARD MEMBER  
BRIARCLIFF MANOR, N. Y.

### Comparison proves

SIR: I suppose that at times a publisher of a magazine wonders if the amount of time and effort put into the publication justifies the problems. I want to assure you that in our case we appreciate the work.

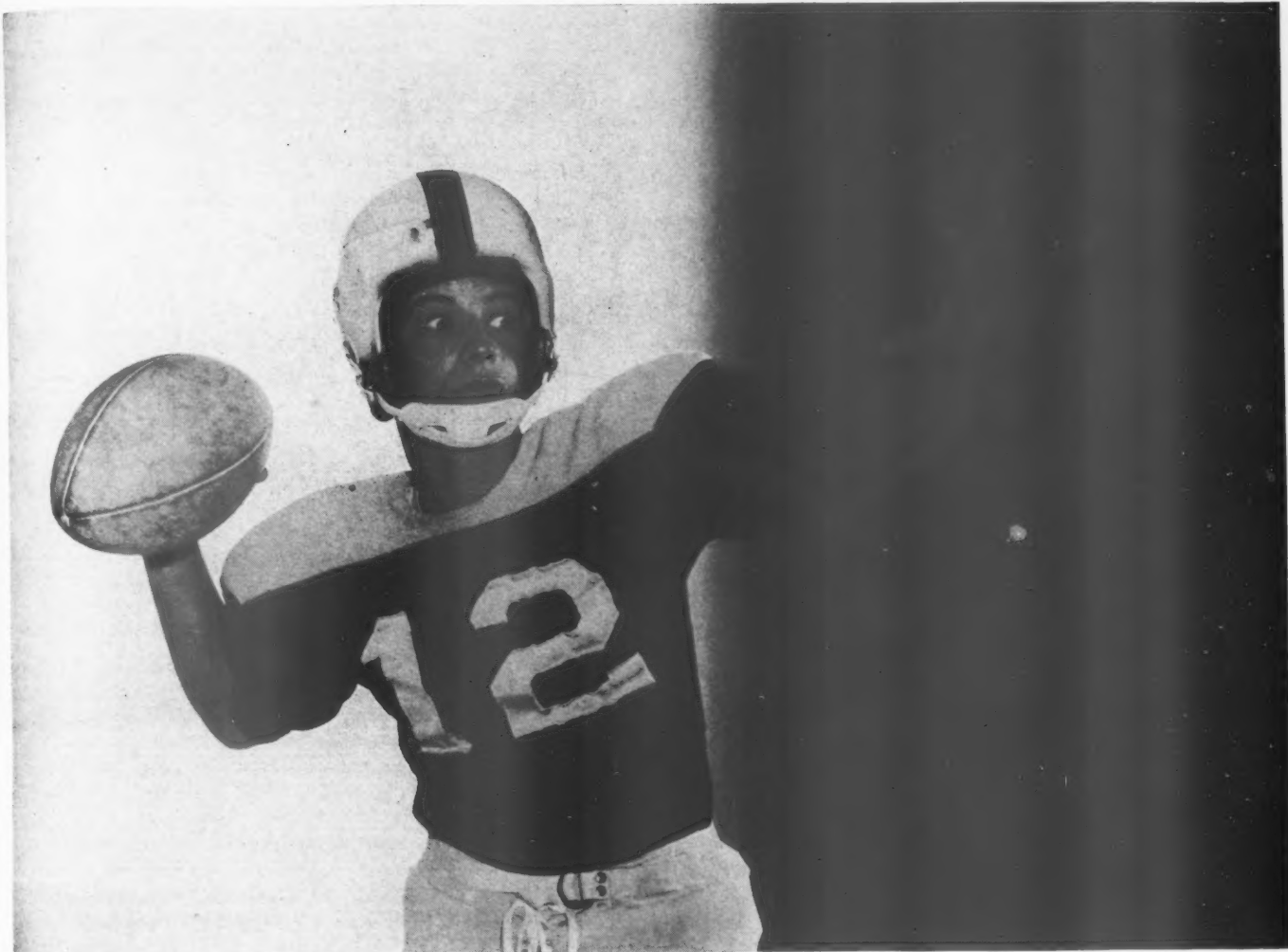
Our administrative assistant made a survey of the 14 largest schools in South Dakota to present to the annual meeting of board members and superintendents of this group. He used figures from your Cost of Education Index (*See SM*, Jan. '61) and he told me that this was the first time that he had found any comparative figures to go by.

Our board has spent many hours in the past two weeks forming a salary proposal for our teachers for the coming year. Again, the figures in your Cost of Education Index were referred to many times, in the formulation of the salary offered as well as in its justification to the teachers' welfare committee. We appreciate the service you are giving.

MERLE N. MOORE  
SCHOOL BOARD MEMBER  
WATERTOWN, S.D.

■ The 14 South Dakota schools compared themselves on: total cost per





## Why "black out" the receiver?

**If your high school athletic field was built before 1950, chances are it is inadequately lighted.**

And chances are there doesn't seem to be much you can do about it, because the conductors of your lighting system are loaded to capacity. Addition of new incandescent fixtures would mean new wiring, new transformers... possibly even new poles and new cross-arms — a major, expensive project.

Now, there is an *economical solution*

to this problem. With new High Output Wide-Lites, you can modernize your lighting system *without expensive rewiring*. You can *gain up to five times as much illumination*, yet actually reduce the total connected load, utilizing the same conductors.

To bring your lighting system up-to-date, you simply replace existing fixtures with more-efficient High Output Wide-Lites. And only the number of fixtures necessary to achieve the desired increase in illumination need be replaced. Wide-

Lite's unique broad pattern blends smoothly with those of adjacent units... provides smooth, even coverage without "hot spots" or heavy shadows.

For the first time, High Output Wide-Lites make possible the use of efficient color-corrected mercury vapor lamps for athletic field lighting. These modern lamps have more than seven times the life of incandescents, and produce a soft, glare-free light which more closely resembles actual daylight.

**Get complete information on this effective low-cost method for modernizing your athletic field without expensive new construction. Fill in and mail the coupon today.**

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WIDE-LITES.**

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SCHOOL \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_

(Circle number 767 for more information)

pupil; percentage of current expenditures for maintenance and operation; cost per pupil for operational salaries; number of operational custodians; cost for heat; cost for other utilities; total cost for operations; cost for maintenance salaries; number of maintenance custodians and total cost for maintenance.

ED.

### Material used

SIR: . . . you are to be congratulated for carrying out this idea. I have used your materials to very great advantage.

I consider SCHOOL MANAGEMENT the most helpful magazine in our field that comes across my desk. You are

rendering a great service to us through this organ.

FRANK H. HAMMOND  
SUPERINTENDENT OF SCHOOLS  
MUNSTER, IND.

### Reprints

SIR: On page 161, you state that you will "gladly permit any district to reprint CEI information on request." The purpose of this letter is to inquire if you would extend this privilege to the Department of Education and Psychology of Iowa State Teacher's College for use with students in school administration.

It would be, as you undoubtedly

know, of considerable value in connection with classwork. Permission to reproduce various parts of the January issue would be of considerable benefit to us.

Congratulations to you for the many fine articles which have appeared in your various issues, and particularly for the very welcome material in the 1960-61 Cost of Education Index.

GEORGE J. HUYS  
ASSISTANT PROFESSOR  
IOWA STATE TEACHER'S COLLEGE  
CEDAR FALLS, IOWA

■ We are glad to have all persons who are interested in improving education make use of the material in the Cost of Education Index.

ED

### Of friends and enemies

SIR: I question if the published letters (SM, Feb. '61) were a true sampling of correspondence in response to your interview with the Council for Basic Education. Surely you received a word of thanks from some.

My personal philosophy of education is comparable to that expressed by the CBE. If they are to be classified as an "enemy," then I must say, heaven help us with our "friends."

It shocks me, when I realize that school administrators are required to possess heroic courage if they advocate a sound fundamental approach to education. I believe there are many schoolmen who secretly agree with CBE but do not admit it for fear of being labeled "old fashioned."

I am not ashamed of my philosophy. I do not believe that schools are primarily a social service center. I do not believe that schools can do all things for all people. The fuzzy minded people who do are the ones who call CBE an enemy of education.

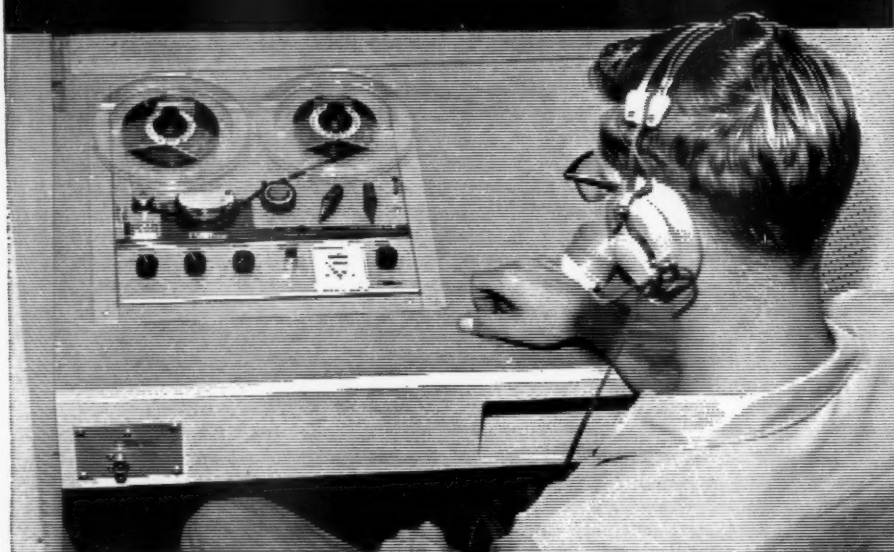
I congratulate you for publishing the interview. I consider it a real service to your readers.

NEWTON F. BUCHANAN  
SUPERINTENDENT  
SHAWNEETOWN, ILL.

### Credit where credit's due

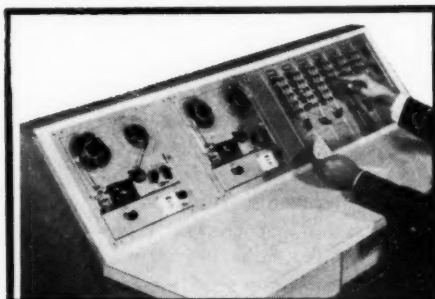
The name of the author of the article "Does an honors course penalize a student?" (SM, March '61, page 28), was inadvertently omitted. The author was Dr. Warren Noble, director of guidance for the West Hempstead, N.Y., Public Schools.

## SOUND LEARNING through LIVING SOUND



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Never before has plastic for this purpose cost so little or been so strong as MARTEST. Fabricated in our own new plant, MARTEST pleases your budget...pulls down the price of durable plastic to the cost of wood.

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chair desk, the strongest desk of its kind ever made. It's teamed with a heavy gauge steel frame and a 7-ply hardwood top covered with Vircolite, another tough plastic.

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When you install a Stromberg-Carlson School Sound System, you draw upon an unlimited wealth of educational material—records, tapes, broadcasts—to provide language lessons, plays, panel discussions, current events, special programs recorded by your own teachers. In effect, you increase your faculty without adding staff.

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*A guide to useful information*

## LANGUAGE ARTS

**Elementary reading.** Since 1957, a reading conference for parents and their pre-school children has been conducted annually in Charlotte, N.C. A supervisory staff, working with first-grade teachers, has conducted sessions at 30 elementary schools.

How this reading program is conducted and the followup methods in the primary grades are discussed in this book by one of the reading supervisors. In addition, the procedures for starting a child in reading are explained for parents.

There are also simplified methods showing how to develop and accelerate a child's comprehension and composition.

**WHY THEY LOVE TO LEARN,** by Ruth Robinson, 105 S. Laurel St., Charlotte, N.C. 172 pages. \$2.50.

## CURRICULUM

**Terminal education.** "That one-third to one-half of those who enter high school do not graduate, indicates how far we are falling short . . . of a secondary education for all youth," according to the introduction of an enlightening pamphlet produced by the Massachusetts Council for Public Schools. "Those students who leave the high school early can hardly expect that the school has served as a terminal education agency."

This booklet is a collection of essays concerning non-college-bound students. Each essay contributes to the general theme, which is that terminal students are generally relegated to a status of secondary importance. The high school's primary responsibility, says the booklet, is not to the students who will attend college, but to the development of the potential of *all* students.

"One cannot say that all school-leavers quit school because it failed to provide for their needs," the introduction continues, "but one can say that a smaller number would have quit if there had been more concern for their individual needs."

The essays describe the holding power of secondary schools, suggest curriculum changes, and describe cur-

ricular offerings possible when several small towns support a single high school.

**SECOND THOUGHTS ON TERMINAL EDUCATION.** *The Massachusetts Council for Public Schools, 16 Arlington St., Boston 16. 20 pages. 35 cents.*

## AUDIO-VISUAL

**Educational television.** The manner in which educational television is used in the United States differs from that of other countries. This volume explains that difference.

It is not a report of the worldwide spread of ETV, but a discussion of the theories and practices of television for teaching in the U.S., Canada, France, Italy, Japan, USSR, and the United Kingdom. The effectiveness of television as an instructional tool, in different classroom situations, is fully explored.

**TELEVISION TEACHING TODAY.** *Published by UNESCO Publications Center, 801 Third Ave., New York City 22. 267 pages. \$3.*

## STATISTICS

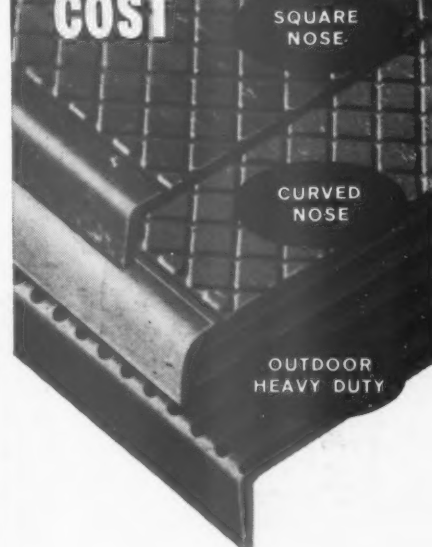
**College, university libraries.** This Office of Education survey lists data covering collections, staffing, expenditures, and salaries for college and university libraries throughout the U.S. Specific data for individual institutions is arranged by state.

The purpose of this survey is to serve administrators in preparing budgets. According to the authors, the analysis "will define the character of library service to higher education more accurately than ever before, and will lay the foundation for discerning trends in the growth and development of academic libraries."

Other findings from this same survey will be published at a later date. They will include data grouped by type of institution, and by size of enrollment.

**LIBRARY STATISTICS OF COLLEGES AND UNIVERSITIES, 1959-60.** *Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C. 79 pages. 50 cents.*

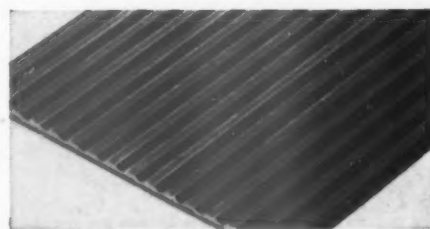
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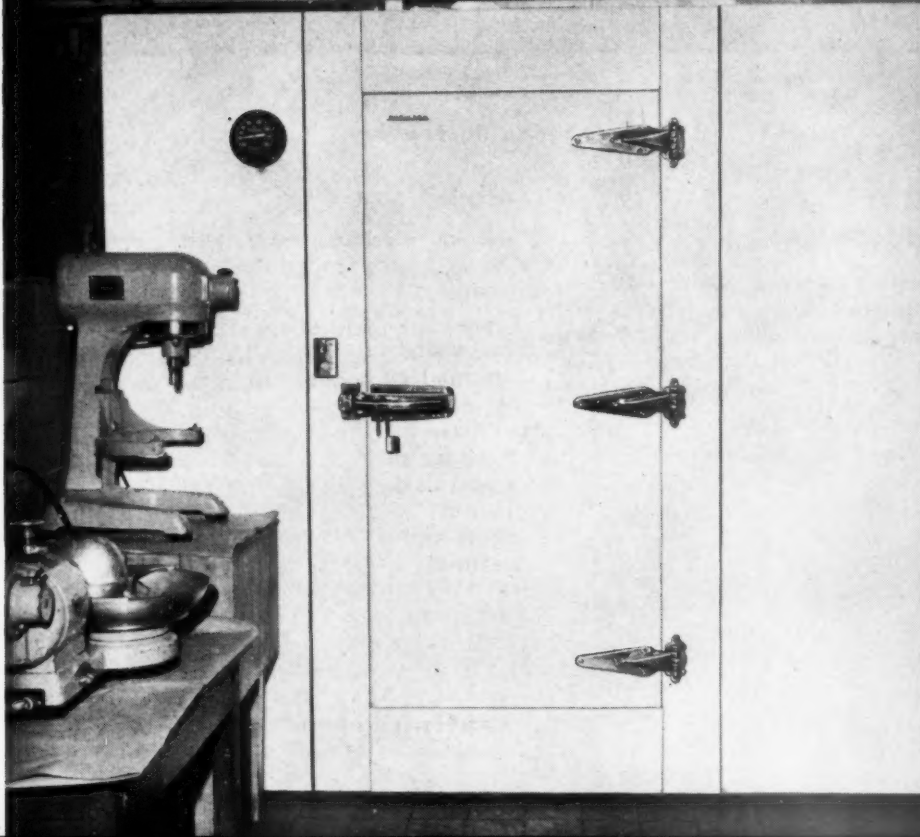
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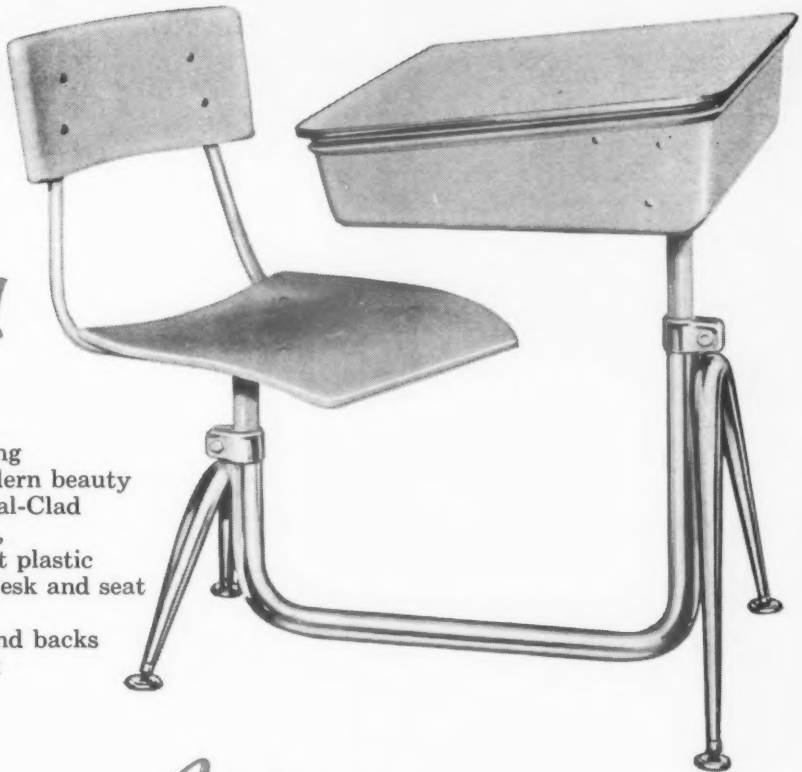
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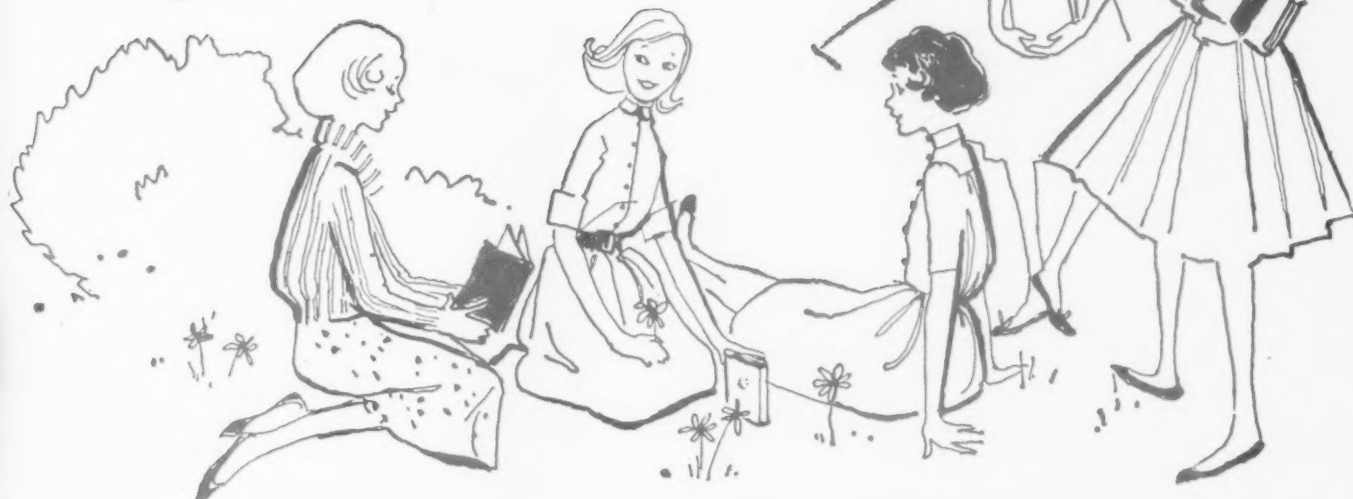
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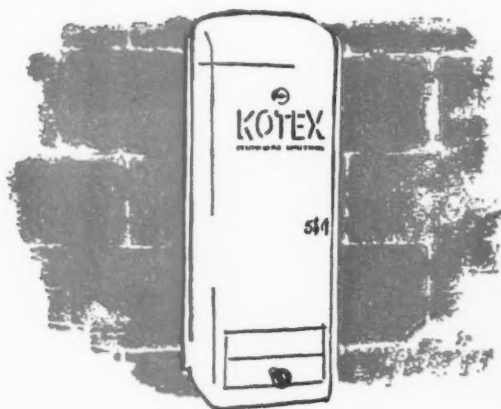
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Vending machines for Kotex belts are also available at a nominal cost.

More than just a convenience, handy, coin-operated vendors make Kotex feminine napkins readily available at all times. They provide a needed and appreciated service for students and teachers. Vendors are available without charge.

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Kotex products sponsor free, a complete program on menstrual education for both elementary and high schools.

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ing nuisances will become problems of the past.

Try slip-proof Contrast on any floor. Better yet, give it a real workout. Test it on your toughest floor problem. You'll be amazed and delighted over the way it ends floor maintenance headaches. One gallon protects and beautifies approximately 2000 square feet.

Right now, contact our representative . . . the Man Behind the Huntington Drum! Ask him for more information about Contrast Floor Polish.



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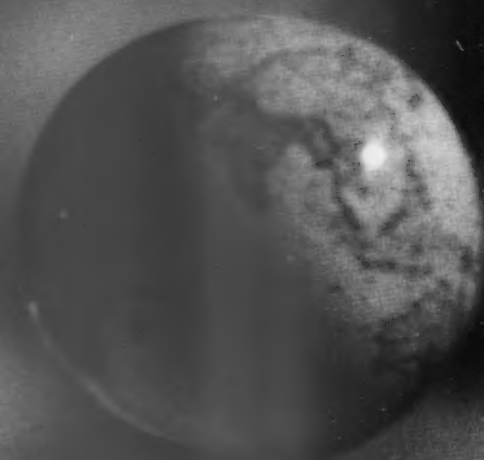
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# This unit ventilator brings air conditioning within reach of almost any school budget!

Schools in every section of the U.S.—more than 661 of them—are now equipped with Herman Nelson HerNel-Cool “now or later” year-round air conditioning systems.

Construction costs for these schools have ranged all the way from \$8.00 per sq. ft. to \$21.00 per sq. ft.

For the most part, construction costs in these same areas were as high or higher for schools not equipped with Herman Nelson “now or later” systems! And now turn the page to see one of the many schools equipped with year-round Nelson air conditioning.



*HerNel-Cool III Unit Ventilator. Classic architectural styling. Efficient engineering design.*



Herman Nelson photo-reporter visits air conditioned school in Alton, Illinois

# Parents' reaction to school air conditioning: "We love it!"

*Mothers' Club President  
Gilson Brown Elementary School  
Alton, Illinois*



*Gilson Brown Elementary School, Alton, Illinois  
Superintendent of Schools: Dr. J. B. Johnson  
Architects: Keeney & Stolze, Alton, Illinois*



According to Dr. J. B. Johnson, Superintendent of Schools (see inset), air conditioning has created a better working atmosphere for teachers and students at Gilson Brown School. He feels there is less lost motion and a much improved learning situation.

In 1960, before the American Association of School Administrators, Dr. Johnson had this to say about his experience with school air conditioning: "I have reached the following conclusions concerning (school) air conditioning in the Midwest:

**1** Teachers and students expend less nervous energy in an air conditioned room and are capable of doing

better academic work. This is not a result of mathematical calculation, it is a matter of professional judgment.

**2** Teachers are capable of doing better teaching. There are fewer disciplinary problems.

**3** Student enrollment for summer school has doubled. This is a voluntary tuition course. If the opinions of the pupils, parents, and teachers are to be respected, we may assume that they are confident that they can do satisfactory work during the summer months."



FIRST IN A SERIES:

## How Alton officials measure benefits of Herman Nelson air conditioning system

School officials and parents in Alton, Illinois are enthusiastic about school air conditioning. They've witnessed the encouraging effects of a Herman Nelson year-round system on students, teachers, and the city's educational program.

And now they know that the cost of installing and operating air conditioning is *greatly* minimized when a school is designed expressly for it. The cost of this beautiful, completely air conditioned school: 32,000 square feet at only \$13.51 per square foot. What's more, air conditioning, heating, and ventilating costs were just \$2.17 per square foot, or *less than many "heat only" schools in this same area!*

Air conditioning permitted Alton architects

Keeney and Stolze to plan a more compact school with many cost-saving design variations. However, design economies didn't reduce working space or detract from its beauty. There are 13 classrooms, two kindergarten rooms, administration suite, health room, counseling room, multi-purpose room with stage, four large ceramic-tiled rest rooms and a teachers' lounge. Exterior finish is brick and ceramic tile facing.

Gilson Brown School is kept at maximum comfort levels throughout the year by a Herman Nelson HerNel-Cool unit ventilator system. Classroom air conditioning unit ventilators, packaged liquid chiller, and related refrigeration equipment are reliable Herman Nelson products.

### Herman Nelson SCHOOL AIR SYSTEMS DIVISION

American Air Filter Company, Inc., Louisville, Kentucky



For more information on school air conditioning write: Herman Nelson School Air Systems Division, American Air Filter Company, Inc., 215 Central Ave., Louisville, Ky.



"We love it."

"People now are really proud to say, 'That's where my child goes to school.'"

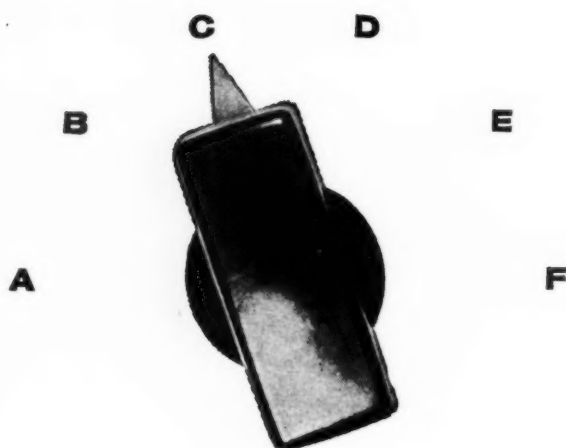
*These comments were made by Mothers' Club officials at the completely air conditioned Gilson Brown Elementary School. Sensitive year-round room temperature control is provided on a room-by-room basis by Herman Nelson HerNel-Cool Unit Ventilators. In the winter, HerNel-Cool Units provide heating and fresh-air ventilation as classroom conditions require, and in the summer these same units provide accurate cooling and humidity control.*



*Principal F. W. Pivoda says air conditioning has proved to be a meaningful "fringe" benefit to teachers. In fact, several teachers have requested transfers to Gilson Brown School. Mr. Pivoda also feels that the cleanliness (no dust or stoker dirt) is responsible for a "custodianship pride" about the school. Even students ask to stay indoors during play periods on warm September and October days. Air conditioning permits teachers to keep windows closed, thus eliminating dirt, odors, and distracting outdoor noises.*



# simplicity



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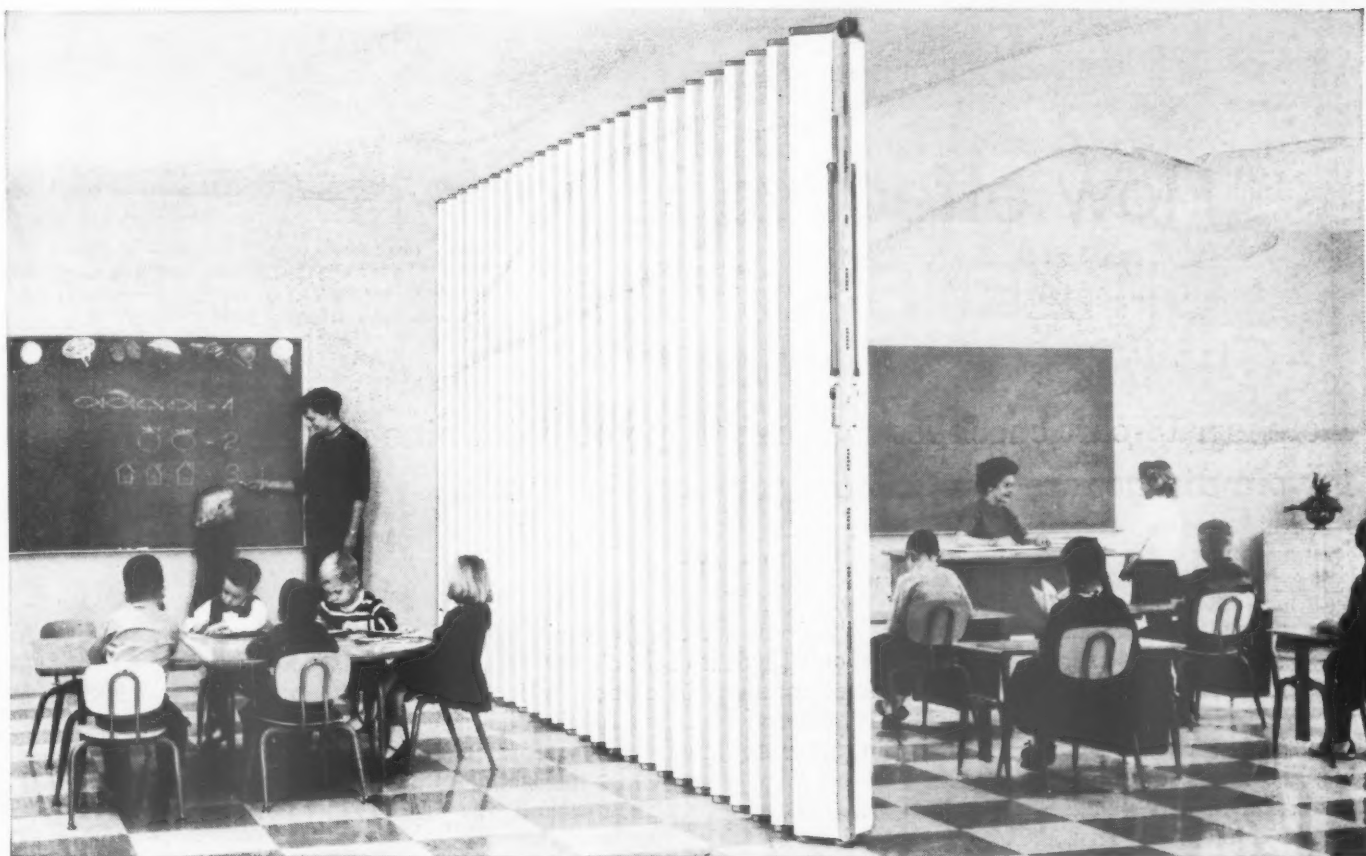
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\*Decibel ratings by Geiger & Hamme Laboratories per ASTM E90-55

## New! Steel-Walled Modernfold

● *First in sound reduction . . . first in heavy-duty school design.* To separate classrooms, to close off part of the auditorium or cafeteria for special activities, or to divide any area to double your use of existing space . . . you'll find this Soundmaster 240 by Modernfold rivals conventional walls in sound control, yet still lets you reunite divided space on a second's notice.

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Partition	"240"	"A"	"B"	"C"
*Sound Reduction 125/4000 cps av.	37.4	32.4	31.8	27.9
354/4000 cps av. (Industry Standard)	41.8	35.8	36.4	33.0
Acoustic Panels	steel 5 $\frac{1}{8}$ " wide, wt. 1 lb./sq. ft.	uses cardboard	steel, 2 $\frac{3}{4}$ " wide, wt. $\frac{1}{2}$ lb./sq. ft.	uses cardboard
Sealer Strips	8	8	4	4
Foam-Lined Jamb-Seal	yes	yes	no	no
Air Release	yes	no	no	no
Pull-In Latch	yes	yes	no	no
Best Fabric Weight— Outside Covering Only	45 oz. per lin. yd.	45 oz. per lin. yd.	18 oz. per lin. yd.	27 oz. per lin. yd.
Top Row Horizontal Hinge Plate Depth	8 $\frac{1}{2}$ "	3"	(vertical)	1 $\frac{1}{2}$ "

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# THINGS YOUR PUBLIC OUGHT TO KNOW

Basic information that schoolmen can use as part of a community education program

## How effective is your CITIZENS' COMMITTEE?

Here is a 13-part checklist that can help you determine if citizens' committees in your district are doing a good job—or a poor one.

■ ■ ■ Does your school district have a citizens' advisory committee? How does it compare with others in your area or that you know about? How effective is it? Would you like to see it do a better job?

Dr. David I. Williams, principal of the Holcomb, Kan., Consolidated School, has come up with a checklist (*see opposite page*) that may help you to evaluate the work of citizens' committees in your community.

His rate-it-yourself system can give you the answers you seek at a glance. He found that the most successful citizens' groups were those which passed his check-test with flying colors. Here's how he did it.

1. Dr. Williams made up a 13-point checklist after consulting 32 school administrators, college professors and laymen he considered qualified in this field.

2. He tested 16 school committees against the checklist. Each committee chairman and school superintendent filled out detailed questionnaires and was interviewed.

3. After the data was compiled, each school was then rated as to its citizens' committee worthiness—excellent, good or fair.

Dr. Williams sees citizens' committees as a bridge between the school board and the community—a link between the positive and the passive. He explains:

"Citizens . . . who want good schools [find] it desirable and sometimes necessary to participate in the formulation of educational policies in order to have a well-informed community [know] what the schools are doing, what [they] stand for and where [they] are headed.

"This requires time, energy and effort. Most effective participation requires organization and collective action by citizens in groups."

Here's how the Williams checklist works:

There are 13 questions. If a committee meets a single criterion completely it gets two points. If your citizens' group passes all with flying colors, it gets a maximum of 26 points. A committee that meets a criterion in part gets a single point. A committee that fails to meet a criterion at all, gets a zero.

A group which earns between 19 and 26 points is rated excellent by Williams. From 15 to 19 points is good. From 11 to 15 points, fair. Below 11 points, you had better take a good long look at your committee, and make plans to revise it.

In his checklist, Williams sought to find out who is on the committee: Are younger people? Lower class, too? What does the committee do? How forcefully? How free is it? How permanent? How does it get along with the board and school staff? How small is it?

With these, and other questions asked and answered, Williams found out that live-wire citizens' groups and his checklist matched well together but that groups which did little flunked his test.

The Williams rate-it-yourself system offers schoolmen the same kind of advantages which do-it-yourself programs have given homeowners and students. It's a quick, easy guide to find out how you're "coming across" to the community, and what kind of a job your people are doing.

With a little patience and understanding, he says, "A long range program of community school relations can be established, which is the real and lasting value of citizen participation."

He insists, proudly, that any citizens' group which meets his checklist qualifications is doing a good job for the community, and that the check idea can help the superintendent make his group do that job.

Citizens have the final say about how good their schools are going to be. The superintendent has the responsibility to constantly push for better standards. The checklist nudges both.

Williams claims it's a "guide" to better schooling and improved school practices. Certainly an A for aspiration is better than an E for endurance.

## THE WILLIAMS CHECKLIST

A rate-it-yourself system  
for citizens' committees

Completely

Partly

No

1. Does the committee get advice from everyone? Are lower class representatives on it? How about younger people, ages 25 to 35?

2. Is it well organized? Does it have a set of rules? Do facts precede action? Is action kept to study, advice and recommendation?

3. Does it cooperate with the school board but keep its freedom of thought and action?

4. Has two-way communication been set up with the school board and community? Are all statements issued through the school board?

5. Was the committee initiated by the board for a specific purpose? Do members rotate if group is permanent?

6. How are members selected? Able, interested, broad contacts, nonpartisan, nonpolitical, no rubber stamp?

7. Does the committee get help from the school board, staff and teachers, without being dominated by them?

8. Does the committee conduct research, study and debate before making final recommendations?

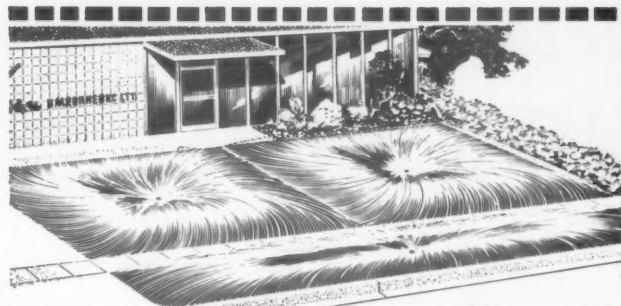
9. Does committee deal with policies, not details, without any "axe to grind"?

10. Is lay leadership emphasized, with officers selected from the active people on the committee?

11. Do school board and superintendent understand and want it, need it? Are its members competent?

12. How large or small is it? (A membership of between 25 and 50 is suggested.)

13. Is it free of preconceived notions? Is it flexible?

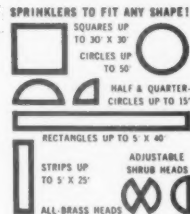


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Contains Hexachlorophene

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**Buying classroom equipment.** Specifications of steel classroom equipment are included in a six-page illustrated catalog being published by the Grade-Aid Corp. The catalog lists dimensions and contains drawings of sink cabinets, wall cabinets, counter storage cabinets, wardrobes and bookcases.

*For a free copy of this catalog, circle number 821 on the Reader Service Card.*

▼  
**Washroom dispensers, receptacles.** The Crown Zellerbach Corp. is distributing an illustrated catalog which contains information on washroom paper towel and toilet tissue dispensers and receptacles. Special emphasis is given to recessed cabinets. There are also recommendations for efficient traffic patterns, correct cabinet placement and installation, and proper ratio of fixtures based on use.

*For a free copy of this catalog, circle number 832 on the Reader Service Card.*

▼  
**Recommendations for maintenance.** The Puritan Chemical Co. is publishing a 16-page booklet, titled "Engineered Maintenance," describing how schools can obtain, without charge, a maintenance and sanitation program engineered to specific needs. The booklet also tells how to obtain free assistance in establishing a maintenance program, and includes sections on job definition and organization of sanitation personnel, custodial training, and cleaning schedules.

*For a free copy of this booklet, circle number 815 on the Reader Service Card.*

▼  
**Using ceramic tile.** Architects and schoolmen will find this 20-page illustrated booklet helpful. It shows many ceramic tile design treatments, and de-

scribes new shapes and sizes of tile. Typical installations are shown, and the advantages of low initial cost and maintenance savings are mentioned. The book is being distributed by American Olean Tile Co.

*For a free copy of the booklet, circle number 854 on the Reader Service Card.*

▼  
**Need storage space?** A bulletin being distributed by the Koppers Co., Inc., describes features of the firm's pole-and-truss design buildings. Material and construction costs are said to be 50% less than conventional warehouses and similar structures. The bulletin also shows how this type of building can be expanded at will.

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▼  
**Typing methods.** A guide to effective electric typewriting instruction is being made available by the Royal McBee Corp. The 32-page booklet, providing the teacher with practical procedures for instruction, contains lesson plans and suggestions for changing from manual to electric typing, and vice versa.

*For a free copy of this guide, circle number 878 on the Reader Service Card.*

▼  
**Insulate your roof.** Minimum physical requirements and application instructions for insulating a roof deck are included in a booklet published by the Insulation Board Institute. The booklet describes an insulation board product designed specifically for use in open beam, ceiling roof construction. Build-up or composition roofings, asphalt strip shingles or rigid shingles may be applied to deck units.

*For a free copy of this booklet, circle number 813 on the Reader Service Card.*

▼  
**Overhead projection.** Details on a new optical system, said to yield superior image reproduction, are included in a bulletin offered by Ozalid Division, General Aniline & Film Corp. Specifications on a projector using this optical system, plus operational and construction details, are discussed in the folder.

*For a free copy of this bulletin, circle number 831 on the Reader Service Card.*

▼  
**Cafeteria counters.** A catalog illustrating and describing a new series of cafeteria counters is being published by the Duke Mfg. Co. The counters are available in various construction materials and several sizes. One deluxe model has a top of 14-gauge stainless steel, is 29¼ inches wide, with a 2¾ inch overhang on the customer side and both ends.

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▼  
**Water demineralizers.** Disposable cartridges are now being featured with a new line of water demineralizers produced by the Barnstead Still and Sterilizer Co. The entire line of demineralizers, many suitable for laboratory use, are described in a bulletin being circulated by the firm. Other types of cartridges, some interchangeable, are also described.

*For a free copy of this bulletin, circle number 819 on the Reader Service Card.*

▼  
**Transcription players.** A six-page brochure (accompanied by engineering specification sheets) describing portable transcription players is being made available by Bogen-Presto. Technical information, accessories and

*continued on page 122*



## The best new cafeterias are planned

Surprising? Not when you know the facts. Because they prove that the cafeteria that starts with Dixie ends up being more economical, efficient, sanitary and—well, just plain nicer. ■ Let's talk Dixie economics, first. Like the storage space you don't have to build. And the dishwashers you don't have to install (or hire!). There are long-term savings too. On breakage. Also on waste: because Dixie has the most extensive matched service on the market, you can pick your plates and cups for precise portion control. ■ As for efficiency—Dixie Matched Food Service sets you up for advance portioning to cut waste down on slack work periods. Not to mention the time saved on washing up. On hiring, firing, and training unnecessary kitchen help. ■ Why more sanitary? That one's easy.



## Learn around Dixie<sup>®</sup> Matched Food Service!

As you stop to think that a Dixie service gets used just once. ■ When it comes to morale-building—remember, Dixie Matched Food Service means 23 pieces in one home-y pattern built-tray after tray that looks as though you care about your students. Another happy living feature is Dixie's exclusive Mira-Glaze<sup>®</sup> Cup. The paper cup that doesn't spoil the taste of good coffee. Faculty, and high-school students, will bless you for it. One last Dixie As plus: nothing quiets a cafeteria faster except a visit from the principal. ■ Building a new cafeteria? Talk to your Dixie Cup representative. While you're still in the blueprint stage.

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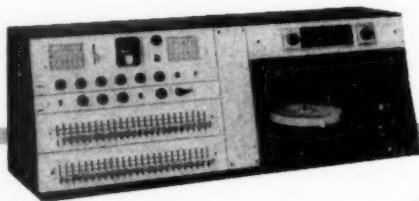


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Three-Channel System; unusual program flexibility; capacity up to 221 rooms.

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SM



SCHOOL LAW

By Dr. Stephen F. Roach

## Competitive-bid contracts

### Must they be awarded to low bidder?

**The question:** May the low bidder bring suit to compel a school board to award to him a competitive-bid contract?

**The facts:** On October 31, 1957, the York, Pa., city school district received competitive sealed bids for the erection of a new school building. The firm of R. S. Noonan, Inc. was revealed to be the lowest bidder.

The following week, by unanimous vote, the school board rejected all bids and authorized its architect to advertise for new bids. When the new bids were opened, the firm of Reindollar and Son was the lowest bidder and was awarded the contract. Thereupon, Noonan brought suit to require the school district to award the contract to it (Noonan).

Noonan argued, primarily, that in originally rejecting the Noonan bid, the board was guilty of an arbitrary action—and had abused its discretionary authority—since the Noonan bid had not been unreasonably high, and was within the amount which the board had appropriated for the construction project. Nor was the project to be abandoned, postponed or altered.

**The ruling:** The court held that in acting as it had, the board had infringed on no legal right to which Noonan was entitled.

The opinion first noted that the school code requirement that the contract be awarded to the lowest responsible bidder granted no rights to "a disappointed low bidder." Nor, the opinion pointed out, had the Noonan firm sustained any "personal injury" which would entitle it to redress in court.

In addition, the court drew attention to the fact that in its advertisement inviting the October 31 bids, the board had included a statement that the right was reserved "to accept any bid or to reject any or all bids." Thus, the court emphasized, all bidders were "on notice that their bids might be rejected."

Significantly, however, the court commented that while the competitive bidding statute vested no rights in a disappointed low bidder, it did give to the public "the right to demand that the lowest responsible bidder be awarded the contract." It could be, the opinion continued, "that the public would benefit by the awarding of the contract to [Noonan], but it is for the taxpayers to protest what the school board has done if they be-

*text continues on page 35*



### About the author

Dr. Stephen F. Roach is editor of the *Eastern School Law Review* and is an assistant principal for the Jersey City, N.J., schools.



Courtesy of Hanover Park Regional High School, Hanover, New Jersey

## put "new life" in your library

It's unwise to pay too much...but it's worse to pay too little. When you pay too much, you lose a little money...that is all. When you pay too little, you sometimes lose everything, because the thing you bought was incapable of doing the thing it was bought to do.

*The common law of business balance prohibits paying a little and getting a lot.*

It can't be done. If you deal with the lowest bidder, it is well to add something for the risk you run. And if you do that, you will have enough to pay for something better.

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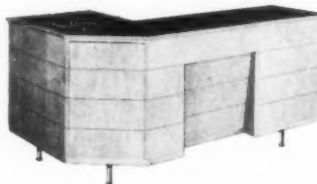
Maximum utility keynotes the "**Rancher**" Reference Unit which combines card catalog, shelving, reference table.

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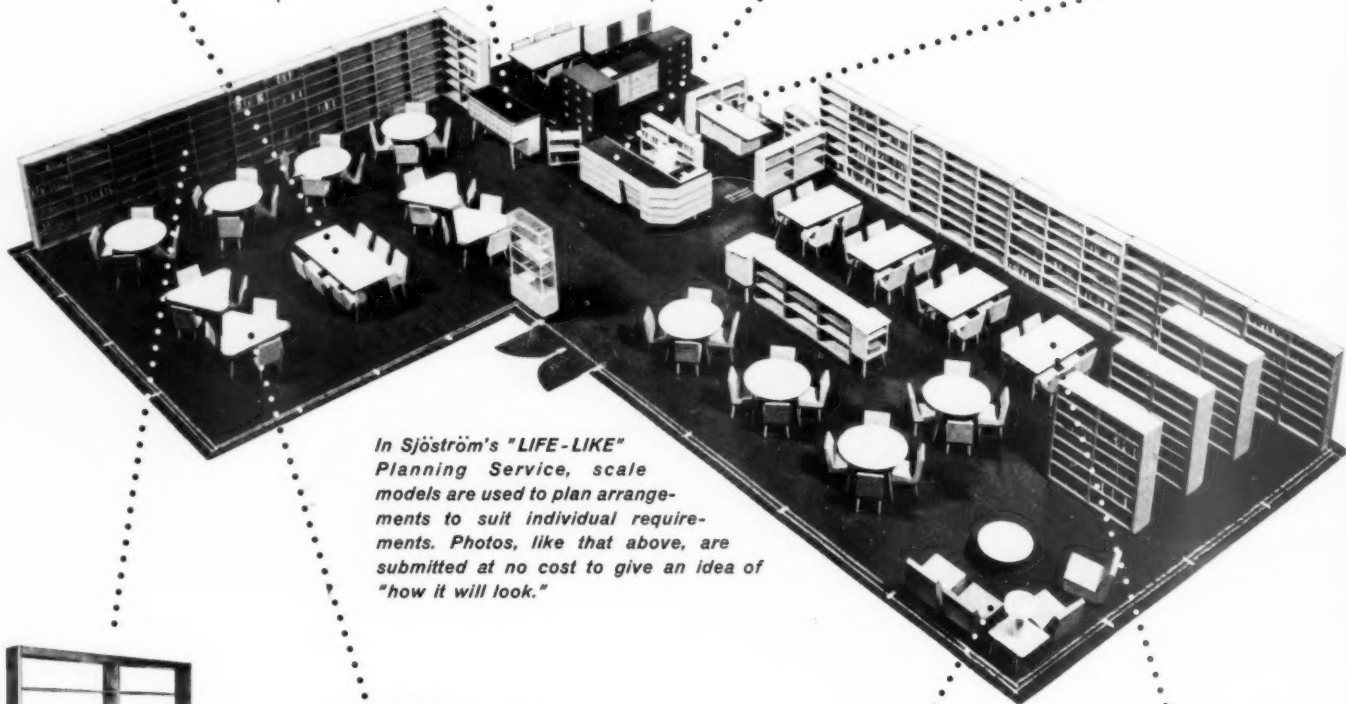
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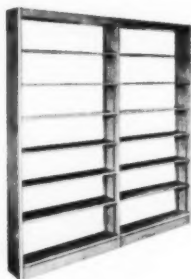


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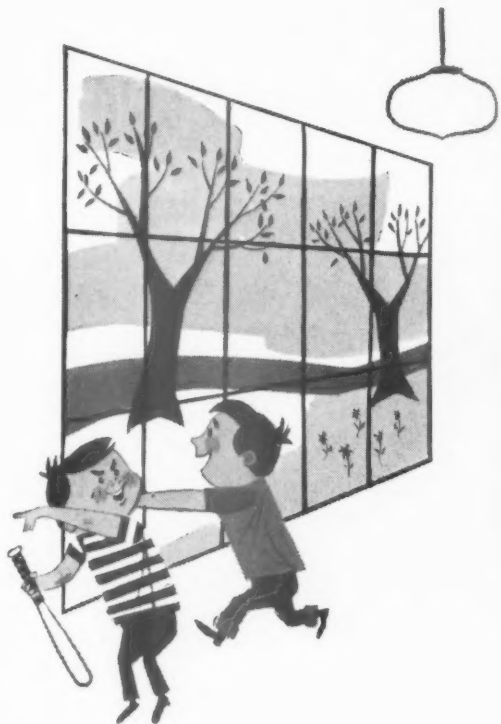


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Be ready for the youngsters when they return . . . with properly heated and ventilated classrooms for the crisp, chilly days of fall and winter. Call or write your local Johnson branch office, or mail the coupon, to have your school put on the Johnson Summer Service Schedule.



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Please have your nearest office supply me with information about your Summer Service Schedule.

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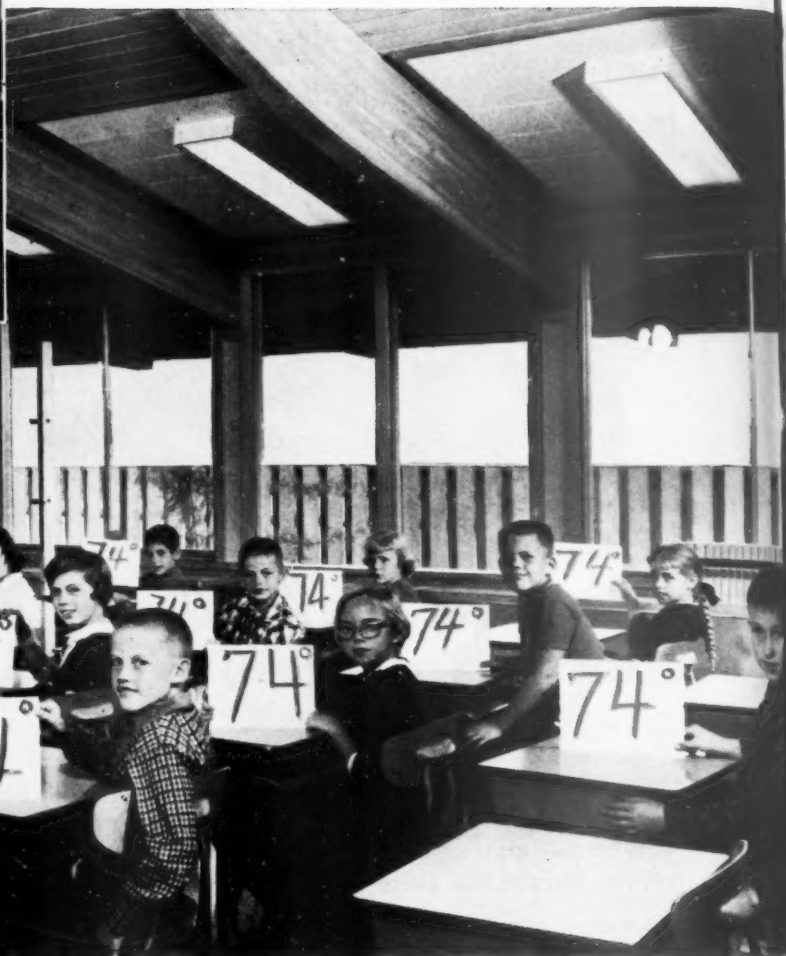
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1083

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Don't let YOUR classroom plans include hot spots and cold drafts.



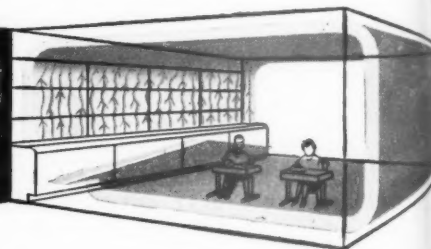
Here is 12-point proof of uniform temperature!  
Full perimeter air distribution assures room-wide circulation

Twelve thermocouples (laboratory devices for measuring temperature) scattered throughout the occupied area of this classroom show a reading of 74° at the recorder in the foreground. This is further proof that the Lennox COMFORT CURTAIN® system provides the complete air circulation necessary to maintain a uniform temperature throughout the entire room. Only COMFORT CURTAIN provides a "curtain" of rising air over the entire outer wall and windows... at uniform velocity. It sets *all* of the air in the room into gentle motion to eliminate

hot spots, cold spots, drafts and stale air. Individual "Day-Nite" thermostats maintain room-wide temperatures within 1/2° of setting. "No-occupancy" settings permit substantial fuel savings. Because each classroom has its own self-contained system, future building expansion is simplified. For complete information about the COMFORT CURTAIN system and its use with all types of heat sources, write LENNOX, 528 S. 12th Ave., Marshalltown, Iowa. If more convenient, call your nearest Lennox office and ask for a technical representative to call.

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**Comfort Curtain®  
provides full room  
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*Individual thermostats provide  
desired thermal environment  
throughout each classroom...  
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Wellerwood Elementary School  
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An air processing unit in each of the ten classrooms controls, blends and filters precise amounts of fresh outdoor air, heated air, and return air, as called for by the room thermostat. This air is distributed uniformly, through functional bookshelf ducts along the entire length of each classroom's exterior wall, to assure full-room circulation. Since each room is independently controlled, the temperature level throughout the room can be immediately adjusted to the number of students, their activities, and outside weather conditions. This individual operation also makes after-hours use of any room economical. The total heating and ventilating cost of \$1.07 per sq. ft. included gas-fired heating units located in approved heater rooms between every two classrooms. The need for a central heating plant and expensive duct or piping system was eliminated.

(Circle number 732 for more information)

lieve there was misconduct on the part of [school board] officers."

*R. S. Noonan Inc. v. School Dist. of City of York et al. In Pennsylvania Supreme Court; decided June 30, 1960; cited as 162 A. 2d 623, 400 Pa. 391.*

## Use of school buildings

### Can loyalty oaths be required?

**The question:** May outside organizations seeking to use school buildings for their meetings be required to submit a "Statement of Information" before their applications will be considered?

**The facts:** The California Education Code requires that applicants for use of public school property must submit to the local board a "Statement of Information." In this, the applicant is to state (under penalty of perjury) that the school property "will not be used for the commission of any act intended to further any program or movement" aimed at accomplishing the overthrow of the federal or state government by "unlawful means." Another section of the code prohibits the use of school property for such purposes.

The American Civil Liberties Union of Southern California was here bringing suit to compel the Los Angeles Board of Education to grant its application for the use of school buildings in which to hold a series of monthly meetings to be open to the public. The board had denied the application because the Union had refused to submit the required "Statement of Information." The Union argued that the statement violated the constitutional rights of free speech and assembly.

**The ruling:** The court first pointed out that the purpose of the quoted statutes was to place every school board under mandate not to permit the use of school buildings "for the commission of subversive acts nor acts in furtherance of any movement that has for its objective subversive results."

The purpose of requiring the "Statement of Information" was to permit the board to determine in advance whether or not the proscribed acts were contemplated by the applicant. Such information, the court held, was "vital" to a determination as to whether or not the intended use of the school property would be in violation of the education code.

Any applicant, the opinion continued, "who cannot truthfully sign the 'Statement of Information' presumably represents an organization which is likely to commit the proscribed acts. . . . Through our legislature, the people of our state have declared and ordained that these . . . subversives shall not have access to the public school buildings of the state for the commission of acts of subversion. If this is not a just and proper exercise of free government, then we are indeed helpless as a state and as a nation."

Concluding that only "tangentially" did the pertinent sections of the code restrict speech and assembly, the court held that the sections were constitutional.

*American Civil Liberties Union v. Board of Education of City of Los Angeles. In District Court of Appeal; decided May 24, 1960; cited as 5, Cal., Chptr. 215.*



# this year millions of school children

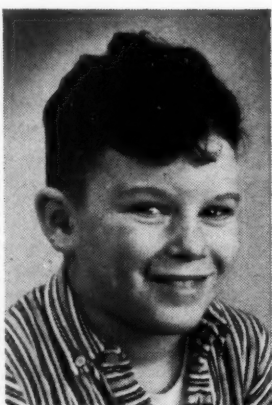


MISS ALICE WARD, SCHOOL NURSE, SAYS

## "a learning problem is often a hearing problem"



Confused, embarrassed, anti-social and learning at a rate far below his real capacity—this child is handicapped by an undetected hearing loss.



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Yes, medical and school authorities have proved that learning problems frequently can be traced to a hearing loss. Failure to detect this hearing loss quickly, may mean a set-back in a child's early development. That is why so many modern school systems now depend on Maico Audiometers for fast, reliable student testing. Rugged, versatile and simple to operate, Maico Audiometers produce positive and precise results with unequalled accuracy. And, Maico's precision engineering assures years of dependable service. In fact, more schools, hospitals, physicians and industries today depend on Maico Audiometers than any other hearing test instrument in the world!

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### for group hearing test

Exceptionally fast and easy to operate, Maico Audiometers are capable of "sweep-checking" an entire classroom in less time than ever before. Simply plug in Maico's multiple adaptor, and you're ready to go! Performs sweep checks on up to 40 children at one time—tests accurately even in room with high ambient noise level.



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Whether you are doing screening tests or complete threshold hearing tests, the Maico audiometer does the job quickly with unequalled accuracy. One audiometer provides all the equipment you need. Includes circuits for pure tone testing of both air and bone conduction as well as for speech reception. Meets AMA specifications. Approved by Underwriter's Laboratories.



### So light to carry

Compact and completely portable, the Maico Audiometer can be easily carried from classroom to classroom—or school to school.

Rugged case provides complete protection.



### Outstanding Features

- TWO AIR RECEIVERS
- TONE-INTERRUPTER REVERSAL
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To keep your schools spotless, see the man from National Chemsearch. He'll be glad to give you on-the-spot assistance with your cleaning problem.

To cut floor cleaning time in half, he'll recommend CHEM-SEARCH CONCENTRATE.®

The cleaner that lets one man do the work of two . . . and do it better! Chemsearch Concentrate is safe for all washable surfaces . . . eliminates scrubbing and rinsing! Penetrates deep into pores, floats dirt to the surface for easy removal. Write for free, descriptive brochure.

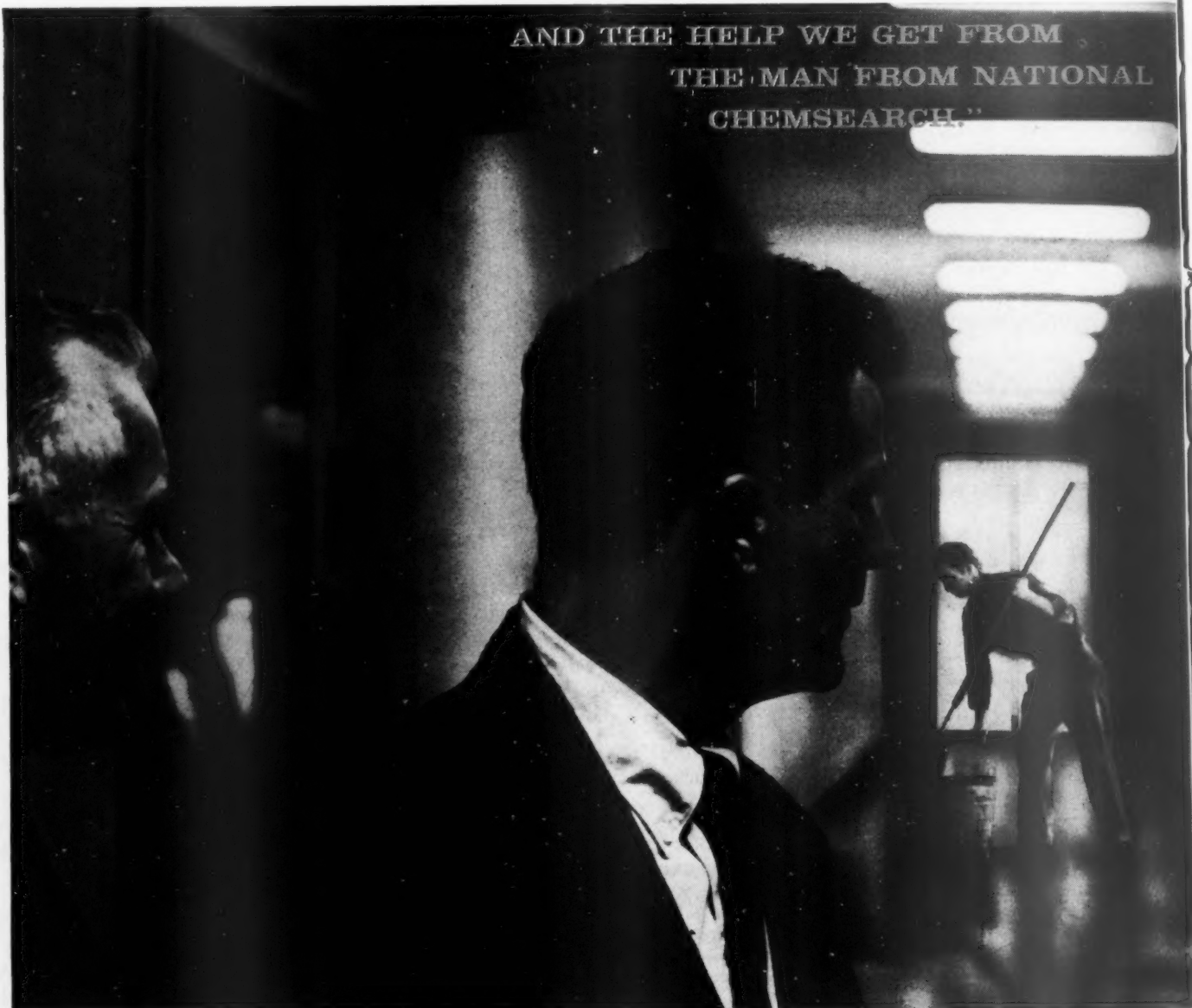
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SCHOOLS ARE THE  
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*A digest of current happenings in public education*

### Fifth year sabbatical urged for all teachers

Teachers at every level should have a full 12-month leave every four years, says Dr. John Rutherford Everett, chancellor of New York City's municipal colleges.

They should spend their sabbatical attending full-time training programs to brush up on the latest developments in education. "In-service training should not be a matter of a few hours tacked on the end of a busy day every once in a while or during summer institutes," declares Dr. Everett.

He thinks that 25% of the teaching force should be enrolled in training programs at all times. In that way, teachers will be adequately prepared to make use of new techniques and new knowledge in their classrooms.

.....

### Funds for parochial buses cleared by Supreme Court

A Connecticut law that lets towns spend public funds to transport parochial students stands, as far as the U.S. Supreme Court is concerned. The tribunal has refused to review a state court's decision upholding aid for private buses.

A group, known as Citizens for the Connecticut Constitution, had appealed to the high tribunal a decision given by the Connecticut Supreme Court of Errors. The state law, passed in 1957, gives communities the right to furnish bus service for pupils in non-profit schools. Towns must pay for the service through local taxes.

Chief Justice Raymond E. Baldwin of the Connecticut court had held, "It comes up to but does not reach the 'wall of separation' between church and state."

.....

### It's back to school for new board members

An unusual "in-service" program for new boardmen will be tried on Long Island, N.Y., the week after next May's school board elections.

The special class, sponsored by the Nassau-Suffolk School Boards Association, will brief neophyte board members on their duties, responsibilities and functions. They will be advised about budget preparation, school-community relations, the use of citizen committees and the value of advisory groups in running their school programs.

Part of the all-day session will be devoted to demonstrations and explanations of new teaching devices—educational television, language labs and teaching machines. School problems in general will also be discussed.

.....

### Year-round school plan strikes sunshine snag

Are you considering year-round schools? Even in sunny Arizona, they'd want you to look twice. Amphitheater district residents have placed a dark cloud in the path of a proposal aimed at preventing double sessions.

A district citizens' committee rejected the plan, recommended instead that the administration institute a voluntary summer program. It turned down the year-round approach for a variety of reasons:

1. It would be inconvenient for par-

ents to have children in school and on vacation at various times.

2. Social and recreational facilities would have to be expanded to 365-day schedules.

3. Maintenance costs would rise; teacher salaries would, too.

4. Summer school training for teachers might suffer. More part-time teachers would be needed.

5. There would have to be more air conditioning, and operation costs would be higher in summer.

6. Transfer students would have difficulties adjusting to the longer schedules.

7. It would be harder to administer extracurricular activities such as athletics, music and dramatics.

"It is more advantageous to have a good six-hour teaching day fewer days a year than to have a five-hour teaching day more days a year, at least at the high school level," the committee reported.

.....

### Cincinnati board urges others to oppose federal aid

School trustees in Cincinnati have broadened their campaign against large federal aid programs. They have

## Too good to miss . . .

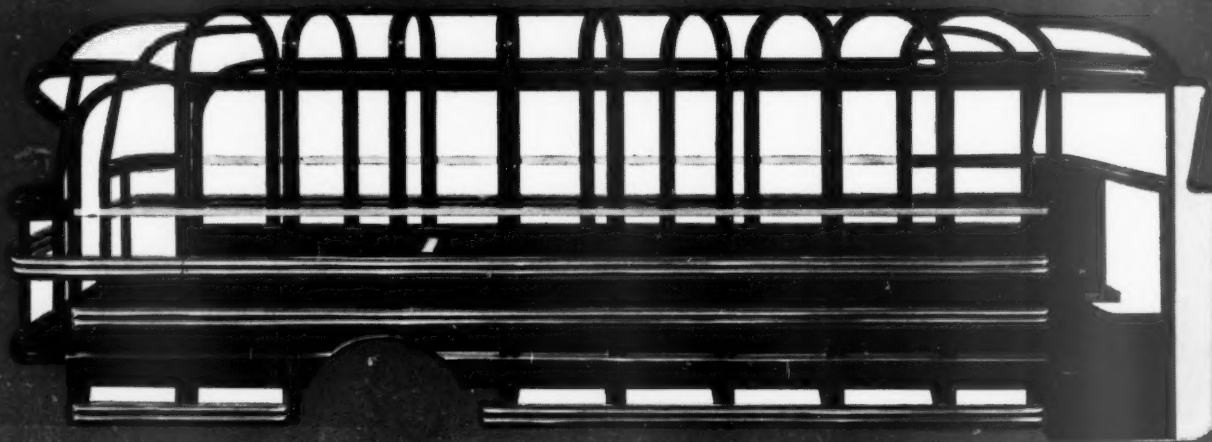
**Note . . .** Missing three consecutive meetings would be grounds for dismissal from the New York City school board, if a bill recently introduced into the state legislature is passed. How would an errant board member reinstate himself? Bring a written note—other board members will pass judgment on its validity.

**Trouble . . .** In Chester, Pa., Principal William Slezak says that in the future, all games scheduled by "fighting" Chester High teams may have to be played out of town. His comment: "There's so much trouble at our home games, no one wants to come."

**Boat . . .** A British shipping company has provided school children with classrooms, dormitories, laboratories and a swimming pool—afloat. The company plans to take students on educational cruises.

**Stubble . . .** Students in Pontiac, Mich., are being permitted to grow beards for the last two weeks of the spring semester in observance of the city's centennial. There was a great deal of opposition until someone pointed out that one member of the school board already sports a goatee, and another might grow a beard on his balding scalp.

# SINGLE UNITIZED ASSEMBLY LETS EVERY PART GIVE ALL ITS STRENGTH TO THE WHOLE BUS



**SINGLE UNITIZED ASSEMBLY** means each body structural member is assembled into a one piece steel framework. **SINGLE UNITIZED ASSEMBLY** means each complete structural member is individually put into place as the body proceeds down the assembly line.

**SINGLE UNITIZED ASSEMBLY** insures toughness and ruggedness for it is a unit bound together by all its members.

**SINGLE UNITIZED ASSEMBLY** means each part is made for the whole body.

Compare **SINGLE UNITIZED ASSEMBLY** with that used by some other school bus manufacturers. They use prefabrication and jig assembly of side sections, roof sections, front sections and rear sections. These assemblies are then fitted together only where complete sections meet.



More details on **SINGLE UNITIZED ASSEMBLY** are shown in Catalog "C". Write for it today.

## BLUE BIRD

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and BRANTFORD, ONTARIO, CANADA

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written 1,000 Ohio school boards voicing opposition to any "massive program of federal aid to education."

All seven members of the Cincinnati board signed the letters—as individuals, not as a school board. "We believe that local and state control of education best safeguards our liberty and freedom," they said.

The board, on June 16, 1959, turned down an offer of \$190,000 from the National Defense Education Act. Fear of federal control of the schools was cited. (See SM, Dec. '59, "Does federal aid mean federal control?")

Two board members who agreed at that time to accept U.S. aid apparently have changed their minds. They are among the signers of the letter to the Ohio boards.

### Ingenuity goes long way; board saves \$3,500

A school mechanic's idea, coupled with hard work and a little help, has given the Columbus, Ohio, schools a new wrecker at a savings of \$3,500.

The bus maintenance crew, in its spare time, fashioned the wrecker from an outmoded school bus, junk parts and some old-fashioned horse sense.

The maintenance crew went to the school board last fall to ask for a new wrecker to replace a smaller one that was worn out. They soon learned that a new vehicle would cost at least \$4,000 and was two years off in the budget.

But they found an old bus ready for trade-in was available. Three of them went to work in their off-hours. They cut off the bus body, picked up a truck cab at a junk yard for \$150, bought a used winch for \$175 and some steel sheeting for \$50.

After several months of work, presto, a heavy-duty wrecker. It already has been put to use, pulling buses free from winter's ravaged roads.

### For want of a sprinkler the school was lost

A little sprinkle goes a long way. In Gaylord, Mich., a parochial school burned down. In Kingston, N.Y., another parochial school had its blaze extinguished by the time firemen arrived.

Both schools were of similar construction, both fires started in the basement. The Kingston school had basement sprinklers, the Gaylord school did not.

Classes at the Kingston school were resumed an hour after the fire started.

There was little damage, except to several burned cartons. At Gaylord, the youngsters had themselves a holiday. But, if the wind had been the other way, there well may have been mourning.

What a difference two small sprinklers in a secluded storage room made!

### Labor, management negotiate textbook on themselves

It's happened at last—unions and business bargaining over books. The result is a 288-page textbook, "Labor-

Management Dynamics"—just published by the Detroit Board of Education. It is designed as a text on the world of industry for teachers and high school students.

This unique adventure in negotiated ideas reached its publication climax after two years of often stormy give and take. It began with a 1959 summer workshop, gained momentum in parleys and rewriting, and saw fruition after a great deal of diplomacy and tact.

From conference board techniques have evolved 11 chapters, two appendices, eight tables and charts, with nu-  
*text continued on page 44*

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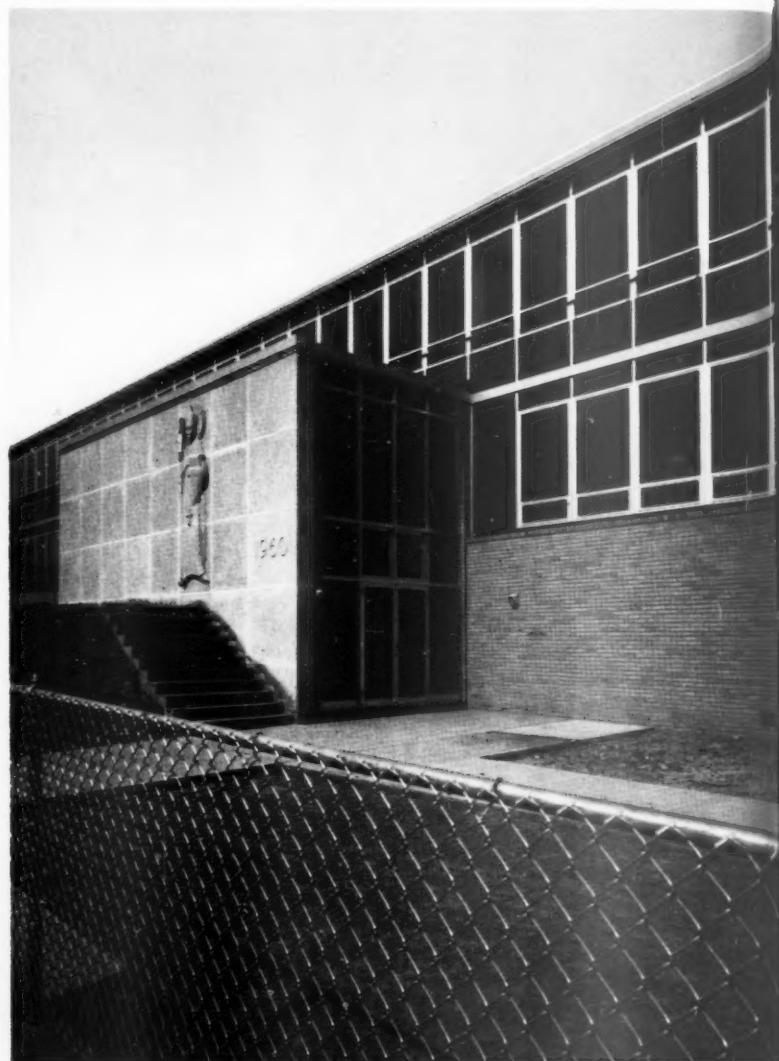
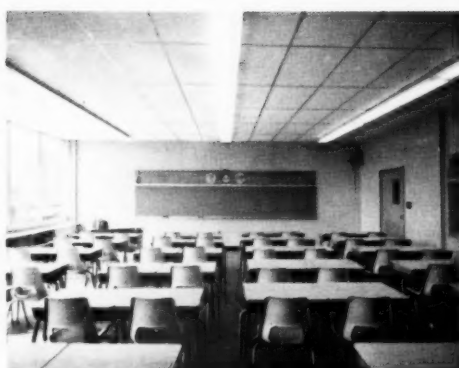
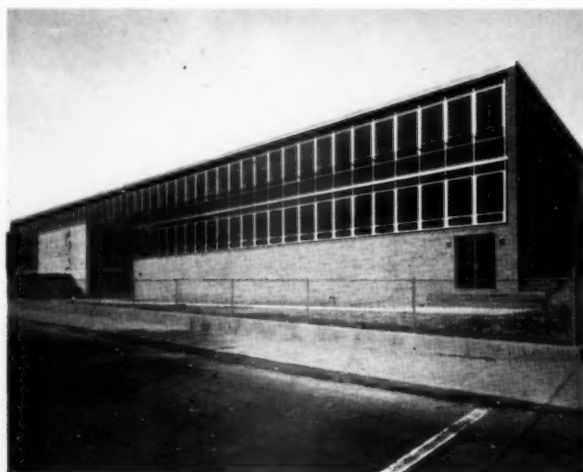
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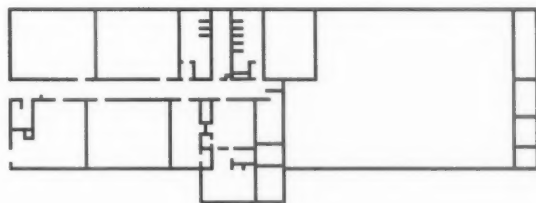
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**American Bridge  
Division of  
United States Steel**



merous illustrations, all tracing the backgrounds of industrial problems and offering a glimpse into their futures.

For once, labor and management consultants actually have agreed—on the basic contents and objectives of the book—thanks to the persuasive power of an educator: Elsie Beck, divisional director of social studies for the Detroit schools. She writes:

"An undercurrent of common concern that understanding be reached was notably present at all times even when disagreements arose regarding the channels used to arrive at basic objectives. It is important that teach-

ers recognize, understand and respect these differences of opinion."

One of the big stumbling blocks was semantics. "The same words meant different things to each side, and until the meanings were reconciled we didn't make progress," she relates.

"Things looked rather gloomy at first," Miss Beck recalls. "We spent the first few days shadow boxing. Each side was suspicious of the other, and both were suspicious of the ability of a mere teacher.

"But suddenly, out of all this talk, we began to get order. Points of bitter disagreement were settled. We saw we really had something."

There were many conferences. Whole chapters were rewritten as much as seven times. There still were arguments, but Miss Beck usually settled them with this rejoinder, "Gentlemen, let's consider both sides."

For some controversial points, like right-to-work laws, collective bargaining and economic aims, the book gives the views of both sides point by point, and leaves decisions to the reader. It traces the history of labor, the growth of business, state and federal laws, and tries to show how they are interdependent.

This idea could pave the way for a whole flock of similar endeavors in the field of education. Imagine proponents and opponents of school bond issues sitting down together and reasoning out their views for mimeographed distribution to an entire community.

### Residency requirements outlawed in New Jersey

Boards of education in New Jersey now are forbidden to establish residency requirements for teachers. A two-year battle against the home rulings ended when Governor Robert Meyner signed a new law making it illegal for any school board to force any teacher to live in its district.

The campaign to abolish residency restrictions was sparked by the fight to lift controls imposed by the Newark, N.J., board. The Newark ruling (*see SM, Oct. '59, page 31*) scheduled to take effect on January 1 of this year, required that all administrators live within the city limits.

### Teacher goes to court . . . so does her class

The younger generation is finding out firsthand about a day in court as part of its schooling.

In Houston, Tex., Fifth-Grade Teacher Mary Burke received a summons for passing a stop sign while driving. Miss Burke had never been in a traffic court before. She took her problem to her 36 students who were studying the courts as part of a course in American history.

"I told them since I was guilty, I was going to mail in the ticket and pay the fine," she said. "The children suggested I go down to the court to pay it.

"I said, 'What am I going to do with you all—get a substitute teacher?' They replied, 'We'll go with you.'" And they did.

After Miss Burke paid her \$10 fine, Judge Abe Levy spent a half hour lecturing. *text continued on page 52*

## PHILCO

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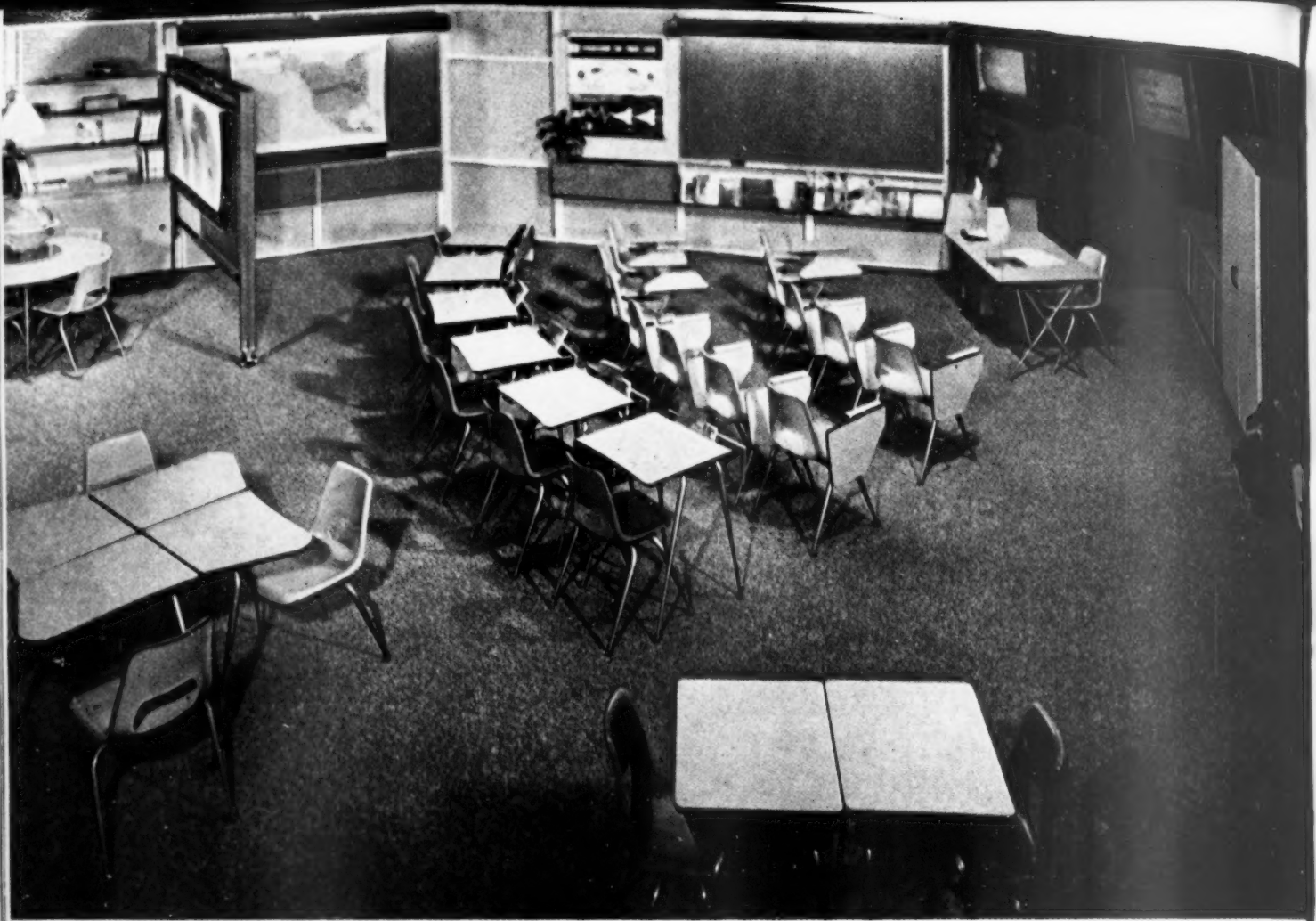
**INSIDE: Functional and comfortable**  
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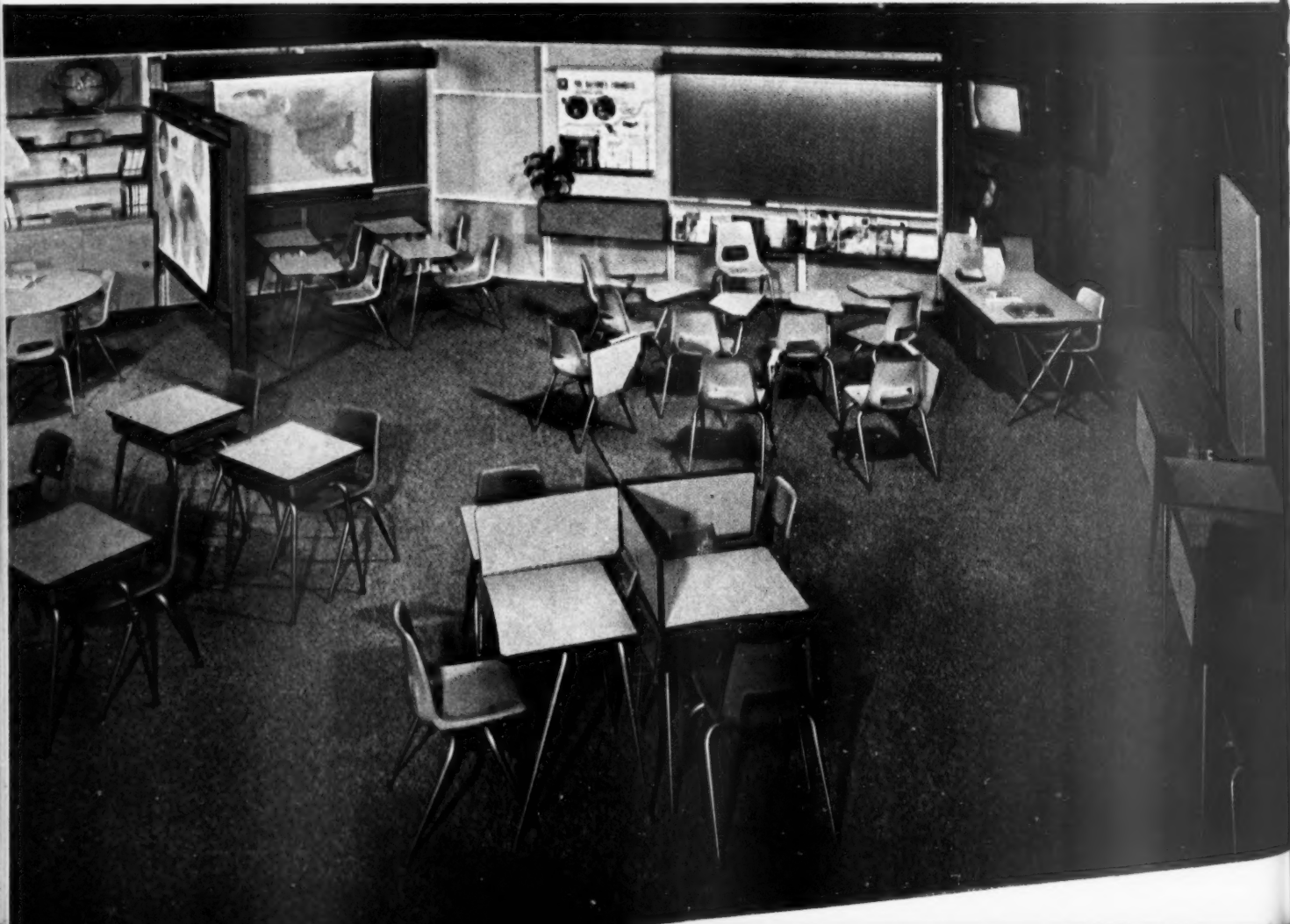
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*Shown: (above) upper grade lecture-demonstration area and (below) isolated group arrangements using new Brunswick Tab-lette Chairs, Trizoid Desks, Cluster Combinations, Moduwall Space Divider.*





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School Master\*500 Filmstrip and 2 x 2 Slide Projector shown with exclusive Accessory Rewind Take-up and Semi-Automatic Slide Changer.



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Here's a beautiful and versatile floor. Properly maintained, it takes punishment in stride. But—far more hazardous than scuffing feet or tracked-in grime, are improper and inferior floor treatments. Instead of protecting the floor, such treatments may actually damage it!

Avoid costly mis-matching of floor and treatment. Follow the specifications of the Asphalt and Vinyl Asbestos Tile Institute\*, choose the specialized treatments that fit the flooring. You'll hold "new floor" beauty much longer, and you'll be money ahead in maintenance.



## \* SCRUB

"with a good, mild neutral cleaner... no oils, organic solvents or other injurious materials." Hillyard Super Shine-All® is the famous neutral chemical cleaner with 6-fold cleansing action, formulated safe for all flooring. UL listed "as to slip resistance".

## \* FINISH

"with an approved water emulsion wax... containing no gasoline, naphtha, turpentine or mineral solvents... Use no varnish, lacquer or shellac finishes." Hillyard Super Hil-Brite® is the finest of water emulsion, self-polishing waxes, made from 100% No. 1 imported Carnuba. Long-wearing—eliminates 2 re-waxings out of 3. UL listed "as to slip resistance".

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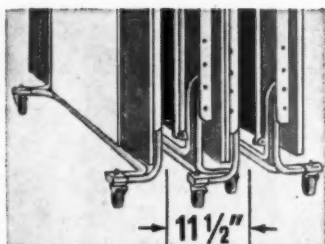
**EASIEST  
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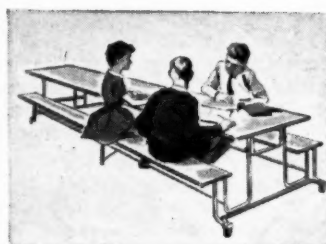
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for safe and easy handling**

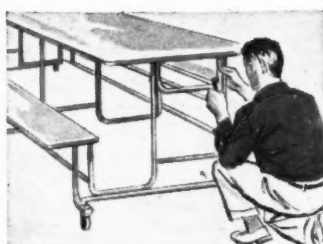
Available in 6, 8, 10, and 12-foot lengths— with or without  
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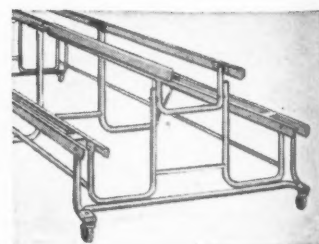
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center to center. Cuts storage space  
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Revolutionary new feature makes unit  
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**NEW UNITIZED FRAME**  
gives extra strength and rigidity to  
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(Circle number 722 for more information)



School construction costs demand savings with color, design and fire safety



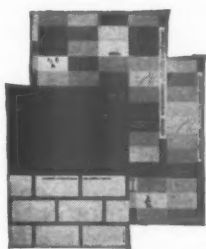
New  $\frac{19}{2}$ / $\frac{61}{61}$

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## Reduce First Costs and Maintenance

Discuss with your architect these three facts concerning cost of glazed concrete blocks for beauty and child-proof durability in corridors, cafeterias, kitchens, gymnasiums, shower rooms, etc.



- (1) 25% in-wall savings below other glazed masonry of comparable durability and appearance.
- (2)  $\frac{1}{2}$  in-wall cost of pre-fab panels of equal quality.
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@ less than \$2.00 sq. ft. instead of other partition construction.

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Low, efficient design lets you  
see entire class, while seated

Fingertip audio control of up  
to 6 programs

Instant contact with as many  
as 150 students—one or all

turing the visiting class on safe driving habits and the process of courts in a democratic government.

This marked a double lesson—on safe driving for the teacher, civics for the student. The students, however, may have overstayed their welcome.

During their time in court, the students watched another trial in which a woman motorist was found guilty of running a traffic light even though her car was improperly identified. The police officer testified the woman was driving a green, four-door; she said it was two-door and blue.

Afterwards, one student asked, "If the officer thought the car was green when it was really blue, and thought there were four doors instead of two, how did he know what color the light was?"

There was no answer.

### Automation pays off

Fifth graders at St. Clair Shores, Ohio, have found a tasty way to test what they learned about assembly-line mass production following a visit to the Ford Rouge plant.

They set up an assembly line to decorate cookies in their classroom. Pupils on the assembly line competed against a group of independents. While one youngster pulled along a strip of wax paper as a conveyor belt and another served as foreman, four others iced and put candy eyes and noses on the passing cookies.

The assembly line turned out 65 cookies, the independents 25.

Although the Super Duper Cookie Factory was dubbed a success, one "worker" complained that there was too much of a rush when it came time for the chocolate chip noses.

### Students honor smoking rule as recess privilege

Does your high school have a smoking problem? Maybe you'll want to consider a Canadian "solution."

In North Vancouver, B.C., about 50 boys aged 16 to 18 are allowed to smoke a half hour daily on school grounds during the lunch hour. This custom has been followed for 20 years. And the rules have been obeyed.

"Not so many students are tempted to smoke when they are allowed to do it," explains W. R. McDougall, principal. "They take their privileges seriously."

"The smokers puff away in a se-

text continued on page 55

# Samsonite CHAIR BUYER'S GUIDE

## HOW TO BUY A FOLDING CHAIR IN 6 EASY LESSONS



**1 STEP ON IT!** Step hard on back rest (as shown). If chair is a Samsonite, observe: contour steel back won't give an inch. No back rest made is stronger—or more comfortable!



**2 STAND ON IT!** Stand on rear of seat; lean back. If it's a Samsonite, don't worry. Samsonite chairs *never* tip over. Perfectly balanced. Amazingly strong, too. (The man above weighs 240 lbs.)



**3 "UNBALANCE" IT!** Place book or pads under leg of chair. Sit, as shown. If chair tilts or wobbles, it's not a Samsonite. All Samsonite folding chairs are *self-leveling*.



**4 "TORTURE -TEST" IT!** Lift front legs off floor; "walk" chair forward and sideways. Only super-strong construction (Samsonite's electrically welded tube steel) can take this kind of punishment repeatedly.



**5 FOLD IT!** Grasp chair back; put foot on cross brace; pull gently. Samsonite chair will fold easily. (While you're at it, place finger in seat hinge. No danger. Samsonite *safety* hinge can't pinch.)



**6 SIT IN IT!** Instantly you'll know the difference. Observe that Samsonite folding chairs are contour-designed (both seat and back rest) for maximum comfort. Good looking, too.



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# Samsonite

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... THROUGH CHEMISTRY



(Circle number 716 for more information)

SCHOOL MANAGEMENT

cluded corner of the school grounds. The boys can't light up until the bell sounds at 12:30. They must stub out their cigarettes a half hour later."

McDougall says the recess rule has eliminated the secret smoke in corridor or washroom. He claims it is the only "realistic" approach to the whole problem.

Of course, no plan is perfect and this one may have a basic flaw. Smoking privileges are not extended to the school's co-eds. What this may lead to is anyone's guess. But if an American school tries it, we'll bet on formation of a "smokerette" movement.

### Teachers stay home in dispute over beating

Nineteen teachers in Reeds Spring, Mo., gave 460 students an unexpected holiday recently by not showing up for classes. This was their way of protesting inaction following assault of a teacher by a parent.

Ralph Arnold was charged Nov. 4 with assault with a deadly weapon on Emory Dalan, industrial arts teacher. Dalan had struck Arnold's son with a ruler.

Since the assault on the teacher, Arnold's hearing in magistrate's court has been postponed four times and he is free on \$5,000 bond. The school board has upheld Dalan's right to punish Arnold's son, citing repeated misconduct.

The board said it backed the teachers' walkout.

### Watch the birdie, or: clicks too costly

Are school photos a racket? Are parents a "captive audience?" In Wilmington, Del., the whole system of picture taking has come under attack. And the city council is taking a look.

The probe was sparked by a citizen who charged that one photographer takes pictures of all students and then solicits sales among parents. "I think this type of operation is illegal," he said.

In a letter to the council, he claimed that many parents face hardships when buying the photos to satisfy their children. "This is clearly a money making scheme for a particular photographic concern and I do not see how this thing managed to become in vogue," he declared.

William H. Burton, a councilman, agreed that it would not be "democratic" for one photographer to take all the pictures, then "pester" the parents.



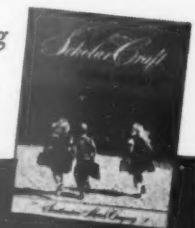
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(Circle number 775 for more information)



**SCHEDULING MADE EASY.** Dr. Albert F. Merz, Assistant Principal, scans printed student programs as they come from IBM machine.

*With low-cost IBM machines...*

## Nyack H.S. speeds student programming

The Nyack, N. Y. public school system was among the first to use IBM machines to program students by ability groupings, without inundating counselors, teachers and clerks in a sea of administrative paperwork.

Now they have reduced this job to a smooth routine and in addition, mechanized preparation of class lists, attendance registers, report cards, test results, special listings and permanent records.

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Here are some of the specific advantages Nyack High School is obtaining from their low-cost IBM machines:

- Elimination of time-consuming clerical tasks during enrollment
- Better control in organizing classes...fewer conflicts...better service to students
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- Availability of records to more people, through automatic duplication
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**IBM**  
DATA PROCESSING



# A simple way to measure your DISTRICT'S FINANCIAL EFFORT

Here is how you can evaluate your own district's financial effort and (using Cost of Education Index figures) equate it with the effort and income of median districts in your state.

■ ■ ■ When it comes to local effort, how well does your school district rate?

Chances are, if you're located in the Northeast, you're doing pretty well. But in many parts of the South and West, if you're making about the same effort as your neighbors, it's likely that your schools are being unnecessarily starved.

These are the latest facts made available through SCHOOL MANAGEMENT's continuing analysis of Cost of Education Index informa-

tion. Figures are based on information supplied by more than 1,600 districts.

On a state-by-state basis (see chart page 58), Maine, Massachusetts and South Dakota lead the nation in local effort for their schools, while Louisiana, Alabama and North Carolina bring up the rear.

## What is effort?

SCHOOL MANAGEMENT's local effort index (introduced in the January, 1961, issue page 91)

## WHAT EFFORT IS OUR DISTRICT MAKING FOR EDUCATION?

To get this figure for your district, divide local income per expenditure pupil unit by true valuation per ability pupil unit.

### Where is our district located?



### What is our district size?

- 1—Over 25,000 pupils
- 2—12,001 to 25,000
- 3—6,001 to 12,000
- 4—3,001 to 6,000
- 5—1,201 to 3,000
- 6—601 to 1,200
- 7—300 to 600

	Average	Quarter Quality	Tenth Top
Nation ▶	.92%	1.48%	2.20%
Region			
1	1.67	2.33	7.71
2	1.45	1.72	2.03
3	.95	1.45	1.88
4	1.18	2.97	3.39
5	.64	.99	1.39
6	.55	.80	1.55
7	.58	.77	.98
8	.73	1.17	1.76
9	.57	1.05	1.54
District size			
1	.75	1.08	1.61
2	.94	1.43	2.01
3	.93	1.37	1.89
4	.98	1.49	1.89
5	.90	1.47	2.09
6	.81	1.39	2.21
7	1.11	1.70	2.77

## RATING OF THE STATES

### Local Effort Index

		%
1	Maine	2.16
2	Massachusetts	2.06
3	South Dakota	1.82
4	New Hampshire	1.77
5	Iowa	1.76
6	New Jersey	1.58
7	Minnesota	1.49
8	Connecticut	1.47
9	New York	1.45
10	Montana	1.34
11	Oregon	1.32
12	Pennsylvania	1.32
13	Vermont	1.22
14	Nebraska	1.16
15	Alaska	1.16
16	North Dakota	1.12
17	Michigan	1.11
18	Ohio	1.07
19	Florida	.99
20	Indiana	.94
21	Rhode Island	.94
22	Wisconsin	.92

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<b>NATIONAL</b>	<b>.92</b>
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23	Utah	.88
24	Missouri	.81
25	Illinois	.77
26	Maryland	.77
27	Virginia	.74
28	West Virginia	.74
29	Arizona	.72
30	Oklahoma	.69
31	Arkansas	.65
32	Kansas	.62
33	Colorado	.58
34	Mississippi	.58
35	Kentucky	.57
36	Wyoming	.53
37	Texas	.52
38	South Carolina	.49
39	California	.49
40	Tennessee	.48
41	Washington	.46
42	Georgia	.45
43	Idaho	.43
44	Nevada	.42
45	New Mexico	.39
46	Delaware	.35
47	Louisiana	.30
48	Alabama	.28
49	North Carolina	.22

is based on the amount of money raised locally for the schools. The importance of this measure is two-fold:

First, it can be broken down district by district since the wealth measure used (true property value) is available on a local basis. If schoolmen do not know the total market value of all taxable property in their district, this information can be readily obtained from county or other assessors' offices.

Second, it is a district measure of each citizen's willingness to tax himself for education.

As has been pointed out, federal and state taxes are fixed by legislators who, while they owe their jobs to the taxpayers, seldom find their political lives in actual jeopardy as the result of a tax vote. (The number of times a tax increase has been voted just before elections can be counted on the fingers of a single hand.)

But local taxes are a very direct concern of the taxpayer. Almost invariably, he votes the tax on himself. Moreover, almost all local school taxes are raised on a single base—the assessment of real property. If the taxpayer is willing to stretch a little more for education, he votes to raise his taxes. If he feels that he cannot spend a nickel more for his schools, he may vote to hold the line, or even to decrease the amount of money he would make available to the schools.

### Local vs. state income

Of course, in some states local income is more necessary than in others. Delaware, for example, supplies most of the local needs from state funds. South Dakota, on the other hand, does comparatively little at the state level, leaving it to the districts to tax themselves.

Nevertheless, even in a district where state support is high, local effort can be a factor. After all, if the state provides \$300 per student in support, it is then up to the local citizens to determine how much *more* their schools should have. They can forgo any tax—and have below average schools. If they want to tax themselves lightly, they can have average schools. But, if they are willing to carry a heavy tax burden, they may make their schools the best in the nation.

The SCHOOL MANAGEMENT effort index is based on the amount of money each district raises as a percentage of its *ability to pay*. Thus, a wealthy district might be raising \$500 per student locally with little effort, while a poor district might have a high effort rating while raising comparatively little money.

The real difference lies between such wealthy states as New Jersey and New York, where districts are making a high effort, and the tragic situation of such states as North Carolina and Alabama, which not only have

## Rating of the states—Expenditures for education

### CEI

Net current expenditures per expenditure pupil unit, 1960-61

1	New York	\$467
2	Alaska	416
3	Nevada	407
4	New Jersey	401
5	Illinois	369
6	Oregon	361
7	Wyoming	360
8	California	353
9	Arizona	351
10	Connecticut	349
11	New Mexico	347
12	Rhode Island	344
13	Wisconsin	341
14	Delaware	338
15	Washington	334
16	Colorado	331
17	Indiana	324
18	Massachusetts	317
19	Minnesota	310
20	Pennsylvania	307

**National ..... 304**

21	Kansas	297
22	Iowa	297
23	Montana	296
24	Maryland	295
25	Ohio	289
26	North Dakota	281
27	New Hampshire	280
28	Utah	277
29	Louisiana	272
30	Nebraska	271
31	South Dakota	270
32	Michigan	268
33	Vermont	261
34	Florida	261
35	Missouri	246
36	Texas	245
37	Oklahoma	241
38	Idaho	228
39	Virginia	208
40	Maine	207
41	West Virginia	201
42	Kentucky	194
43	Georgia	191
44	North Carolina	185
45	South Carolina	177
46	Tennessee	167
47	Mississippi	167
48	Alabama	165
49	Arkansas	155

### NEA

Total current expenditures per pupil in ADA, 1960-61

1	Alaska	\$585
2	New York	585
3	New Jersey	512
4	California	494
5	Delaware	460
6	Illinois	457
7	Wyoming	454
8	Oregon	448
9	Nevada	435
10	Washington	430
11	Montana	427
12	Michigan	424
13	Wisconsin	421
14	Pennsylvania	421
15	Connecticut	420
16	Rhode Island	417
17	Maryland	415
18	Minnesota	415
19	Massachusetts	413
20	Colorado	406
21	Iowa	400
22	Arizona	390

**National ..... 390**

23	Ohio	388
24	Kansas	384
25	Hawaii	378
26	Indiana	372
27	Louisiana	370
28	New Mexico	365
29	New Hampshire	363
30	Missouri	355
31	South Dakota	350
32	North Dakota	345
33	Utah	340
34	Vermont	339
35	Texas	330
36	Maine	326
37	Nebraska	320
38	Oklahoma	320
39	Florida	310
40	Idaho	285
41	Kentucky	275
42	Virginia	275
43	West Virginia	255
44	Arkansas	242
45	North Carolina	240
46	Georgia	236
47	Tennessee	228
48	Mississippi	225
49	South Carolina	223
50	Alabama	217

How much does each state spend for education? The charts at the right show two methods to answer this question. Both are based on estimates of current expenditures in the current school year.

The National Education Association figures (*far right column*) are based on *total* current expenditures per pupil in average daily attendance. Information is based on estimates made by the 50 state departments of education.

The Cost of Education Index figures are based on *net* current expenditures per *weighted pupil unit* (expenditure pupil units). The information was supplied by 1,600 local districts cooperating as members of the national CEI panel.

The different measures used, and the two sampling techniques, account for the different figures obtained but, remarkably enough, there is comparatively little difference in the ranking of the states as shown by either measure. For example, the two surveys agree on eight of the top and nine of the bottom 10 states.



## HOW TO FIND YOUR DISTRICT'S EFFORT INDEX

By using this worksheet, you can estimate your own district's effort for education. Then compare it with your state, your region and the effort of your neighbors.

### First, find your district's wealth.

1. A good estimate of the market value of all taxable property in this district is: \_\_\_\_\_
2. This district's elementary RADA\* is: \_\_\_\_\_  
(Note: If below 316, use correction factors listed below)
3. This district's secondary RADA\* is: \_\_\_\_\_  
(Note: If below 695, use correction factors listed below)
4. This district's Ability Pupil Units: \_\_\_\_\_  
(Multiply secondary RADA by 1.3 and add to elementary RADA)
5. The wealth behind each resident student is: \_\_\_\_\_  
(Divide line 1 by line 4)

### Second, find your district's local income.

6. The total local income of this district is: \_\_\_\_\_
7. This district's elementary ADA is: \_\_\_\_\_  
(Note: If below 316, use correction factors listed below)
8. This district's secondary ADA is: \_\_\_\_\_  
(Note: If below 695, use correction factors listed below)
9. This district's Expenditure Pupil Units: \_\_\_\_\_  
(Multiply secondary ADA by 1.3 and add to elementary ADA)
10. This district's local income per student is: \_\_\_\_\_  
(Divide line 6 by line 9)

### Third, find your district's effort index.

11. This district's effort index is: \_\_\_\_\_  
(Divide line 10 by line 5)

\* Resident Average Daily Attendance (RADA), incorporates all students attending your schools and residing in your district added to all students who reside in your district but go to public schools outside your district, to which your district pays tuition. RADA does not include students attending your schools but residing in another district, nor does it include private or parochial school students.

**Correction factors:** (If your district has fewer than 316 elementary school students and/or fewer than 695 secondary school students, you must apply these correction factors.)

**If your district's elementary ADA (or RADA) is less than 316 and between:**

1 and 22, use the figure 22

23 and 44, use your actual ADA (or RADA)

45 and 109, multiply your ADA (or RADA) by 1.56 and subtract 25.

110 and 315, multiply your ADA (or RADA) by .82 and add 57

**If your district's secondary ADA (or RADA) is less than 695 and between:**

1 and 68, multiply your ADA (or RADA) by 1.68 and add 14

69 and 391, multiply your ADA by 1.02 and add 59

392 and 695, multiply your ADA (or RADA) by .78 and add 153

little income, but where—at the local level—apparently there is little willingness to do better.

### How to find your effort

To find the effort index for your own district (see worksheet page 60), first get a good estimate of the true value of all taxable property in your jurisdiction. (True value is used, rather than assessed value, because of the great discrepancies in assessment habits. Some districts assess at 100%, others at 10%. The median for the United States is about 33%.)

This figure should be divided by your district's Ability Pupil Units (see SM, Jan. '61, page 84).

(Ability Pupil Units are found by multiplying resident average daily attendance at the secondary level by 1.3 and adding that figure to resident average daily attendance at the elementary school level.)

The figure you now have is the true wealth behind every student residing in your district and attending public schools. Ability Pupil Units are used as a measure in order to give all districts—whether they are unified or have only elementary or secondary students—a comparable base. It accounts for the fact that it costs more to put a secondary student through school than it does to educate an elementary school child.

The second step in learning your district's effort index is to find out how much money was raised locally for the schools. This figure, which is readily available, must be divided by your district's Expenditure Pupil Units (see SM, Jan. '61, page 84).

(Expenditure Pupil Units are found by multiplying your secondary average daily attendance by 1.3 and adding it to average daily attendance in the elementary schools.)

The figure you now have is the amount of money that was raised per student by your district. This is above and beyond funds contributed by the state or federal governments or any other sources. The third step is to divide the amount of money raised locally per student by the true wealth per student of your district. The result is an index of your district's local effort.

On a national basis, the median district in the United States had an effort index of .92. Twenty-one of the state medians exceeded this figure while one, Wisconsin's, matched it. Every state in Region 1 (New England) and Region 2 (New York, New Jersey and Pennsylvania) exceeded the national median. No state from Region 6 (Mississippi, Alabama, Tennessee and Kentucky) or Region 7 (Texas, Louisiana, Arkansas and Oklahoma) even approached it.

One quarter of the nation's schools had an effort index of 1.48 or better. On a state-by-state basis, only seven exceeded this figure.

### Rich and poor

Interestingly, there is a huge variance in wealth of these states, as shown by per capita personal income (see box below).

It is safe to say that the overwhelming majority of districts in these seven states are making a major local effort for education, no matter what their means.

How about the other end of the scale? Unfortunately, we find that many of the states making the smallest local effort for education, are also among those that must make an above average effort just to begin to compete with some of their richer neighbors. North Carolina, Alabama and Louisiana certainly could not be included as wealthy states that don't need a high local effort.

How about Delaware, New Mexico and Nevada? Here we find a paradox. Despite relatively little local effort, these states rank quite high in expenditures per pupil. Obviously, state support is the answer. But how much better could the schools of these three states be if, on the local level, taxpayers were willing to raise their effort at least to the national average?

Local effort is the single, most conclusive measure of the devotion of a district's taxpayers to their schools. It measures how much of whatever they have they are willing to spend for education.

How does your district measure up? **End**

### EFFORT AND INCOME

*Here are the per capita personal income figures for the seven highest states in terms of local effort for education.*

	Local effort index	Per capita personal income
Maine	2.16	\$1,872
Massachusetts	2.06	\$2,619
South Dakota	1.82	\$1,600
New Hampshire	1.77	\$2,186
Iowa	1.76	\$2,162
New Jersey	1.58	\$2,735
Minnesota	1.49	\$2,102

# Are you getting maximum mileage from YOUR TESTING PROGRAM?

Standardized test results do more than reflect individual student achievement. In West Hempstead, N. Y., they help schoolmen locate trouble spots in their program, evaluate new courses, and measure teacher performance.

By DR. SELMA E. WHILT, *Supervisor of Elementary Education*  
West Hempstead, N. Y.

■ ■ ■ Are you looking for an additional yardstick to tell whether you should give a teacher tenure?

Do you want to know a simple, straightforward method of evaluating an experimental teaching technique?

Can you use an objective plan for rating your entire instructional program?

If your district carries on some kind of standardized testing program—and most school systems do—you've got all the tools you need right at hand.

## Using the testing program

In West Hempstead, N. Y., we decided to make greater administrative use of the testing program in our elementary schools. Devising ways to do it required the close cooperation and planning of both our teachers and administrators. Now we have an evaluative instrument that we can apply to several facets of our total school program. The tool we have developed helps us locate and zero-in on trouble spots before

they get out of hand. It doesn't substitute for conventional administrative practice, but it has become a useful aid.

In West Hempstead, we use the Stanford Achievement Battery each year in grades one through six. It gives an evaluation of achievement in arithmetic, spelling, reading and language usage. To learn the range of mental abilities with which we are dealing, we also give the California Mental Maturity Test to elementary children in third and fifth grades. In some cases, testing is done by the school psychologist.

We know that test scores alone mean very little. Good standardized tests have a norm, which relates an individual score on a test to a reference group. Grade norms, for example, relate the performance of an individual to that of the average child at each grade level. This is the kind of norm provided by the Stanford Battery.

Mental tests, which give the potential learning capacity of pupils, also need to be interpreted in terms

of a norm. Individual performance on this test is usually related to the performance of the average child at a certain age. For example, if a child of 15 achieves the score of an average 12 year old, obviously we know he is not up to par as far as meeting his mental capacity is concerned.

When we divide mental age by chronological age, we are able to show the relationship between the two measures as an intelligence quotient (IQ). This is commonly used to denote the learning capacity which a child possesses. In theory, the average child has an IQ of 100; the child who is better than average will be above 100 and the below average child will be below 100.

## How we use results

Our testing program provides us with a number of useful facts about our students, our teachers and the educational program. We use these facts in several ways.

First, we can construct a good, general picture of the level of intel-





This chart, shown by Dr. Whilt, is used to indicate graphically the IQ level. In this case, one grade is considered. Each symbol represents three students and figures show the total number at each IQ level.

ligence within our schools or the various grades of which they're composed. For example, when we tested the third grade last year, we found that 48 of our 304 children were below the national norm of IQ. The median IQ in the group was between 110 and 119. This meant that the children were well above average in IQ as far as national norms are concerned.

We can do the same thing for the general achievement level of our youngsters. The Stanford tests, given to the same third-grade students, showed us that 49 of the children were below the national norm of 3-9, which means 3 years, 9 months.

#### Expectation

The groupings on these two measures are roughly equivalent. Those below 79 in IQ would be expected to fall below 3-0 (third grade) in achievement. Those with IQ's between 100 and 109 would be expected to achieve between grade 3-9 and 4-2. Similarly, those with

IQ's of 140 or above would be expected to have an achievement of grade 5-5 or above.

Expectations are developed by using the IQ as a rough measure of rate of growth. A child with an IQ of 100 would achieve exactly at the national norm of 3-9. A child of 110 IQ would achieve 10% more. By comparing the two measures we find that the median of achievement is in the 4-7 to 5-0 interval, while the median IQ is 110 to 119.

This remains a rather general comparison. A more concise one can be made by constructing a graph with achievement as one axis and ability as the other. Each child is located on the graph according to two scores, his mental capacity—or IQ—and his achievement on the Stanford Battery. Thus, a child with a 110 IQ and an achievement grade of 4-2 is located on the 110 IQ line at the point where the 4-2 achievement line intersects with it.

When we find that our children, as a whole, are achieving well in relation to their intelligence, we have

only part of the story. What about those who achieve above national norms? Are they also the most intelligent? If we assume that children who are above average IQ should achieve above average in academic subjects—and most do—they should appear on the right side of the 100 mark, above the 3-9 line. Those below average in IQ would tend to fall on the left side of the 100 IQ line, below the 3-9 spot.

Following this reasoning one step further, we can plot the expectation for each IQ level in terms of grade. These figures form a line of expectation. A further refinement can be made by using different colors to represent different schools. Medians for IQ and achievement are established for each school and posted on square blue flags on the graph.

This kind of analysis lends itself to many variations. It can be used at one grade level only, or one subject only, throughout the district. It is possible to analyze a single grade in one school. A building analysis of individual classes can also be car-

ried on in much the same way by color keying classes.

### Evaluation

We also use test results to sort out individuals and evaluate achievement. To do it, we assume that an individual who is above norm in IQ should achieve above norm in the Stanford Battery. To follow up on children who do not seem to achieve as they should in terms of mental capacity, we stake out an arbitrary line below which no child should fall. This would run diagonally, somewhat below the "line of expectation" on the graph.

We forward lists of each of the children who fall below our arbitrary limits to the elementary schools involved to get further information on them. Schools are asked to indicate what factors they feel are operating in the seeming nonachievement of each child. We develop a card file followup for these individuals. We hope to follow these children up for another year to see whether they have come any closer to achieving at a level more in keeping with their indicated ability.

### How good are our teachers?

Every district has some method of its own for granting tenure. Most of them, though, depend primarily upon subjective observation by school officials. Classroom observation is an important part of our evaluation system, too. But when coupled with the objective test results of what a teacher has accomplished in the classroom, we feel that we have a more valid barometer of teacher ability.

In order to use test results for evaluating instruction, we make another assumption: that the median IQ of a group of students should dictate its relative rank in achievement when compared with other similar groups in the district. Presumably, good instruction would help bring about this result.

Shown on this page is an instrument we use to rate teaching ability. In the case given here, there were 13 fourth-grade teachers in the district. Before determining Miss Frammat's anticipated rank in the district in terms of achievement, we first determined the IQ rank of her

class in relation to the others in the district. When we rated all fourth-grade classes on median IQ in the district (116), her class held seventh place, with an IQ of 116. Her anticipated rank in subject matter achievement would, therefore, be seven.

When we rated all fourth-grade classes according to average achievement on the Stanford Battery, however, we found that she and another teacher shared fourth and fifth places, giving Miss Frammat an actual achievement of four-and-one-half. Comparing her expected achievement (seven) with her actual rank ( $4\frac{1}{2}$ ) shows her class to be  $2\frac{1}{2}$  places above its anticipated spot on the achievement scale.

In a similar way, we were able to

rate Miss Frammat on her ability in teaching individual subjects. Language usage, her best subject, came in at  $4\frac{1}{2}$  throughout the district, although her anticipated rank was seven—a rating of plus two-and-one-half. Her next best subject was reading, with a grade level of 6-8. Here she ranked second in the district, five points above expectation. She placed sixth throughout the district in spelling and third in arithmetic. This kind of information, weighed and interpreted against classroom observation and personal opinion, gives our administrators the kind of ability scale they need in establishing tenure. It can be—and often is—used, too, by teachers themselves to improve their competence in teaching basic skills. Weak-

*continued on page 112*

### SUPERVISION DATA

Name Miss R. Frammat

Grade 4

School X

No. 4th Grade Teachers	13
Anticipated Rank	7
Actual Achievement Rank	$4\frac{1}{2}$
Relationship	$+2\frac{1}{2}$
Median I.Q. in Class	116
Median I.Q. in District	116
Rank of Class in District	7

### ACHIEVEMENT RESULTS

	Best Subject	2nd	3rd	4th
Language				
Subject Usage				
Median	7-6	6-8	6-3	6-1
District Median	7-2	6-2	6-1	6-0
National Median	4-9	4-9	4-9	4-9
Anticipated Position	7	7	7	7
Actual Position	$4\frac{1}{2}$	2	3	6
Relationship	$+2\frac{1}{2}$	$+5$	$+4$	$+1$

### PRINCIPALS RATING

*Principal reports that this teacher carries on an adequate educational program and children are well prepared for the work of the next grade.*

*Teacher is somewhat shy and finds it difficult to speak with adults either in a group or individually.*

### SUGGESTIONS AND RECOMMENDATIONS

*Since teacher seems to have developed a feeling of rapport with principal, suggest help for her be carried on through him.*

## STANFORD ACHIEVEMENT TESTS

### Distribution of scores Grade 3

Grade score	Reading	Spelling	Lang. usage	Arith.
11-2			1	
11-0				
10-8				
10-6				
10-4				
10-2			10	
10-0				
9-8			2	
9-6				
9-4			8	
9-2				
9-0				
8-8			11	
8-6				
8-4	5		13	
8-2	1		1	
8-0	1		10	
7-8			10	
7-6	3		9	
7-4	7		8	
7-2	10		14	
7-0	5	14	22	1
6-8	6	8	10	1
6-6	10	16	1	
6-4	10	20	17	
6-2	22	18		1
6-0	23	13	20	6
5-8	6	14		12
5-6	14	15	18	10
5-4	19	13	17	16
5-2	18	14	4	28
5-0	17	14	8	45
4-8	18	42	18	52
4-6	8	20	15	43
4-4	24	14	6	37
4-2	21	23	9	28
4-0	19	13	9	13
3-8	11	13	7	4
3-6	9	15	9	8
3-4	11	6	4	6
3-2	10	5	6	3
3-0	4	2	4	
2-8	1	3	2	
2-6	2		3	1
2-4	1	1	1	1
2-2			2	
2-0			3	
1-8				
1-6			2	
1-4				
1-2			1	
1-0			1	

Total 316 316 316 316

Nat. Median 3.9 3.9 3.9 3.9

W. Hempstead Median 5.1 5.0 6.1 4.7

% at or above National Median

### Total group norms

Grade	2	3	4	5
11-2				1
11-0				1
10-8				2
10-6				4
10-4				3
10-2				8
10-0				5
9-8				10
9-6				3
9-4				8
9-2				13
9-0				14
8-8			1	10
8-6			4	27
8-4			6	19
8-2			3	19
8-0			9	23
7-8			12	19
7-6			31	23
7-4		1	27	19
7-2		1	22	16
7-0		7	23	10
6-8		4	13	15
6-6		11	16	10
6-4		15	20	9
6-2		13	13	4
6-0		15	16	5
5-8		16	16	3
5-6		20	14	3
5-4	1	25	13	3
5-2		23	8	4
5-0	16	21	6	3
4-8	29	31	4	3
4-6	29	36	2	3
4-4	15	19	4	3
4-2	15	8	3	1
4-0	34	13	3	1
3-8	28	11	1	
3-6	27	12	1	
3-4	39	5		1
3-2	30	6		2
3-0	13			
2-8	10	2		1
2-6	4		1	
2-4	4	1		
2-2	1			
2-0	1			
1-8				
1-6				
1-4				
1-2				
1-0				
Total	296	316	302	306
Nat. Median	2.9	3.9	4.9	5.9
W. Hempstead Median	3.9	5.0	6.6	7.8
% at or above National Median	96.6	91.8	95.	89.5

— Nat. Med.  
- - - W. Hempstead Med.

### How well are they learning?

What happened in the different subject matter areas in grade 3 in the West Hempstead schools in 1959-60? (See chart at far left.) The accompanying graph illustrates one way of answering this question. The children tested were well above the national median in all subjects. The results in language usage were the farthest above the national median and arithmetic was nearest. The wide range of scores in the language usage tests is also noticeable. Scores on this test have a higher variability because of nature of the subject matter, so this difference may not be significant. The narrower range in arithmetic may be explained in part at least by the fact that the test measures scores from grade 1.5 to grade 6.9. In spelling, 14 pupils had perfect scores, an indication that a test with a higher ceiling is needed.

### Charting pupil progress

Does the growth of your pupils in achievement from grade to grade have an upward trend? (See chart at left.) What is the range of scores at each grade level? How do your scores compare with the national median? These and other pertinent questions are graphically answered by a chart such as this one. Grades where highest achievement is reached are evident at a glance and comparisons are easily made. In the Spring of 1960, all elementary pupils in West Hempstead were tested. This graph is one of several made to give visual analysis of test results. Similar evaluations were made in each subject area (reading, spelling, language usage and arithmetic).



If an average student can go beyond his own grade level in a single subject, why restrain him and waste his time? Here's how one high school challenges the average student, as well as the gifted, with an accelerated, ungraded curriculum.

## You can challenge your

■ ■ ■ Almost every schoolman is genuinely concerned about "doing something" for the academically talented pupils in his district. Pressure for advanced courses in the sciences, mathematics, foreign languages and English can be found almost anywhere.

Too often, these tougher courses are designed—and reserved—for the 15% of the student population defined by Dr. James B. Conant as "academically talented."

One school which does not reserve these courses for the "academically talented" is in Melbourne, Fla. There, High School Principal B. Frank Brown has introduced a high-power curriculum which challenges even the most gifted pupils.

But every course is open to average students who can prove they are able to handle the tougher material.

If an average student demonstrates talent in one particular subject, he is encouraged to go as far as he can in this subject while remaining at his normal level in other areas of the curriculum. The district's philosophy is that if an average student can go beyond his own level in mathematics, for example, why restrain him and waste his time? Says Brown: "In our school, an average student may study college level calculus at 9:30, remedial English at 10:30, and the usual 10th grade subjects for the remainder of the day.

"We can't afford to ignore these average pupils," Brown continued.

"They're the ones who will make up the bulk of our population—who will vote, who will run our government and conduct our business affairs.

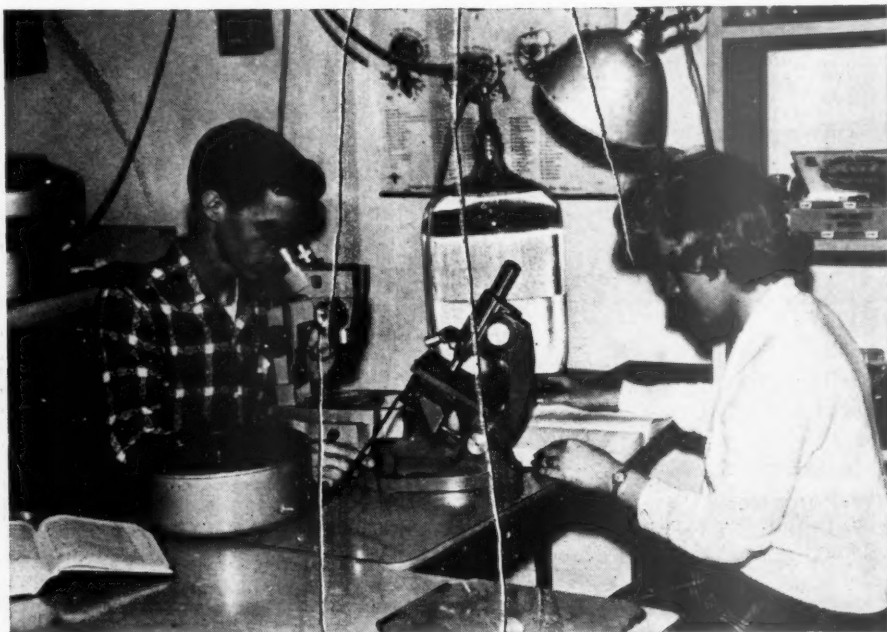
"Generally speaking, high schools have not met their obligations for these students. The schools have been so concerned about the gifted that they have neglected the average.

"Yet," says Brown, "I have found that average students are willing and able to go way beyond what we have been expecting them to do. The

proof is right here in my own school."

Melbourne is located within commuting distance of Cape Canaveral. Several years ago, when the alert sons and daughters of missile base scientists began entering Melbourne High, the curriculum was revised to accommodate a high percentage of academically talented students. The high school introduced second year courses in biology, chemistry and physics, overhauled laboratory sessions to include extensive research, extended the foreign language and

**Science research** is an important phase of the Melbourne High School curriculum. Science research students are pictured in the laboratory where they are studying "The effect of the *Drosophila melanoma* tumor on fish tissue culture."



## 'average' students, too

mathematics programs. Even teachers, many of whom lacked the up-to-date scientific knowledge of their students, were given special training.

"Before all this took place," Brown reports, "our students were rocking along, pretty much indifferent to education, just like most other high school students. They did the work necessary for graduation and that's all. There was no demand for advanced work, and we were guilty in not offering any.

### "Now or never"

Principal B. Frank Brown has a problem with the teaching of English, but he has developed an unusual solution. Here are his comments:

"The results we get from teaching English are all out of proportion to the effort we expend. We've overcome this, with moderate success, with what we call the 'now or never' approach. When the youngster comes into high school, we test him on grammar, punctuation, spelling, etc. If he has the requisite knowledge, passes the tests and satisfies our counselors, he never takes these subjects again. The time he gains is spent in probing other English studies. But if he cannot grasp the principles of grammar, etc., he must take remedial courses immediately."

"But with the coming of Cape Canaveral, and with the changes in our curriculum, we discovered that when we gave our average students an opportunity to do advanced work, they responded to the challenge. Our difficult courses, originally aimed at the Cape students, proved just as stimulating to our 'home-grown' pupils in Melbourne."

Because of the wide range of abilities among its students, Melbourne instituted what Brown calls an "ungraded high school." Basically, this means that any student who has advanced knowledge in a particular subject need not review the material with a class. "If a student knows geometry," says Brown, "he knows geometry. Why make him sit through it again? We don't. We let him go on to a more difficult math ahead of his class." There is one exception. Florida law requires every student to take a one-year course in American history.

Brown explained that students are not chosen for advanced work on the basis of IQ, probable learning ratio, or interest. They are selected solely on the basis of achievement. If, for some reason, an average student has mastered first-year chemistry before he enters the high school, Brown's staff sees that the child gets all the chemistry he can take when he does get to high school. He not only gets advanced classes, says Brown, "he gets more home work, more extra-curricular assignments and more lab sessions. But in subjects other than

chemistry, he is just an average student.

"With this type of curriculum in an ungraded high school, you can develop latent interests and capabilities in the so-called average student.

"This is vertical enrichment, and we do it this way because lateral enrichment—at the same grade level—is likely to suppress a student's interests and talents unless he is equally gifted in all subjects." **End**

**Talented mathematics students at Melbourne High School pursue courses in calculus and analytical geometry.**



# How eight school districts work together

Eight independent school districts in New Jersey are working together through a principals' association, to guarantee that all their children get the best possible education. Here's how it's done.

■ ■ ■ How well do your high schools and elementary schools get along together? If yours is a unified district, the answer is probably "fair to middling." But if you are in an elementary or high school district, almost certainly the answer is "not at all."

In New Jersey's Northern Valley, seven independent elementary districts and one regional high school have taken steps to change this situation. Their *modus operandi*: The Northern Valley Principals' Association (NVPA).

Six years ago, students from the seven independent districts were being sent to three separate high schools. But due to the growth of the area, pressure was mounting for

the formation of a single regional high school, to which all elementary schools would send students.

Principals of the seven elementary school districts began meeting informally at that time, in an attempt to anticipate and overcome some of the problems that would be facing them. "We felt that we needed this kind of exchange, anyway," says John Sheehy, current chairman of the NVPA. "The idea of working together and discussing common problems was not really new. But the prospect of a single high school did serve as a catalyst."

From those first informal meetings seven years ago, the NVPA has grown into a major, formal organization. The superintendent and the





DONALD MACKINNON

*Administrative Principal  
Norwood Elementary School*



JOHN SHEEHY

*Administrative Principal  
Haworth Elementary School*



FRANK HURLEY

*Superintendent  
Regional High School District*

principal of the regional high school were added to the council six years ago. Regular meetings were scheduled the first and third Friday of each month during the school year. Dues were levied against the districts, giving the organization the ability to use consultants, send out notices and otherwise carry out its many functions.

This spring, under a grant from the state department of education, the group is hiring a full-time coordinator to act as its executive secretary.

In its short history, the NVPA has become a powerful cohesive force in its area. Its activities have ranged from such comparatively minor projects as cooperating on school closings during snow storms, to setting minimum curriculum goals for all students entering the high school.

In the following tape-recorded interview, three members of the NVPA tell how the organization operates, explore some of its projects and discuss its future hopes and plans. John Sheehy, administrative principal of the Haworth Elementary School, is president of the group. Don MacKinnon is administrative principal of the Norwood Elementary School. Permanent headquarters are to be established in his school building. Frank Hurley is superintendent of the Northern Valley Regional High School District, the secondary school for all of the students of the area.

**Q Your seven elementary school districts have been in existence for some time, each operating independently of the others. What suddenly caused you to form this coordinating council? Was it the possibility of a regional high school?**

MACKINNON: I don't think this really started "suddenly." I was a teacher in this area before I became administrative principal. We had problems. Teachers in neighboring districts had exactly the same problems, yet we hardly knew one another. We never discussed them together. I think it was in an effort to overcome this lack of communication that the association started.

SHEEHY: I would agree with that. The administrative principals started meeting together on an informal basis to see what could be done to help solve their common problems. Of course, the prospect of a regional high school, to which we would all send our students, helped to push us forward. I don't think, however, that you could say the new high school was the cause of the NVPA.

**Q. How does your association operate?**

SHEEHY: When we first started, the seven principals involved met in-

formally for lunch about once a month. When Mr. Hurley was appointed superintendent of the high school district, we invited him to join us. Later, as we began to get into more things, we needed to be a little more formal; so we started meeting twice a month, starting at 9 a.m. and running through lunch.

**Q. Are there any expenses involved with your organization?**

MACKINNON: Up until the present time, expenses have been held pretty much in check. We have plans now to expand the scope of this organization, and in that case we will have to levy an assessment on the member school boards. The basis of that assessment is something that we are working on at the present time.

**Q. Each of you is actually in charge of an independent school district. Doesn't this Northern Valley Principals' Association threaten your autonomy? Don't the decisions reached really force your districts to conform?**

SHEEHY: Not at all. Oh, I suppose a certain amount of autonomy is sacrificed. For example, no district now has the freedom to do a poor job of preparing a child for high school. But who would want to? This association is useful to us because it gives us a chance to compare experiences. It makes it possible for us to discuss questions with our peers.

*text continues on following page*

**Q In one form or another, your organization has been operating for six years now. What do you feel you have accomplished?**

HURLEY: As superintendent of the high school district, I've certainly seen the results of this cooperation. When our freshmen come into the high school now, they are much better prepared than they have been. Not only better prepared, but there is a greater balance in the class. It has meant that we can progress much faster, right from the start.

**Q. Can you give me an example of this better balance?**

HURLEY: Certainly. Take English composition. If one district is demanding a composition a week from its seventh and eighth graders, and another gets only one composition a term, you can see the difficulties this would cause at the high school level.

**Q. How has the formation of a principals' association affected English composition?**

MACKINNON: We have established what we call "minimum essentials" for all the elementary schools in this region. These essentials have been established in the four major subject areas. We're now planning

*"This association was started to overcome the lack of communication between the elementary and secondary levels."*

MACKINNON



to do the same thing in other subjects. One of the minimum essentials is in the number of compositions a student should write. Of course, one district could still require a greater number, but no student entering the high school would have fallen below the minimum.

**Q. Just what are these minimum essentials? Are they an attempt to dictate the courses that will be taught in each school? For example, do you agree among yourselves that you'll all use the same textbooks?**

MACKINNON: We're more concerned about what skills are taught than we are about how they are taught. Actually, we think it's preferable that students coming into the high school have different backgrounds. Otherwise the teaching could get pretty sterile.

SHEEHY: That's right. So we say that every student must write two compositions a month in the eighth grade. The kind of composition is up to the individual teachers. We say that all children at a certain grade level should have had certain experiences with grammar and composition and a given competence in spelling or penmanship.

**Q. Who sets these minimum standards?**

MACKINNON: These are set by committees of teachers, working with a member of our association.

**Q. Teachers? Wouldn't it be better to have your professional administrators set the minimums and then present them to the teachers?**

MACKINNON: What good is a program that is foisted upon teachers? In the final analysis, they are the ones who are going to have to teach it. Our teachers are professionals. They know a great deal about their subjects. Certainly they're competent to discuss and plan their courses.

**Q. How are teachers selected for these committees?**

MACKINNON: For the most part, they're volunteers.

**Q. Can you exercise control over the committee members?**

MACKINNON: This is left up to the individual principal. No one has ever dictated to me who should be



*"One of our major objectives is to smooth the path of students entering the high school."*

HURLEY

on these committees. However, I think we have worked so closely that we know those people who will do a better job, and sometimes a principal will request that you make sure that a particular teacher gets onto a committee. We try to get continuity from year to year and this helps.

HURLEY: Remember that final approval of all minimum essentials rests with this body of principals. If we found that a committee was recommending something that we thought ran contrary to the best education, we would, through our administrative abilities, try to get these committees to make changes. And, of course, in the very end, we must defend our policies before our individual boards of education.

SHEEHY: I think you must remember, too, that these are large committees—we always have at least one representative from each school—so it's pretty hard for them to go way out on a limb. Even if an irresponsible person did become involved, the great majority on the committee would temper his opinions.

MACKINNON: Another factor that helps is that these committees do not necessarily work on their own. We suggest that they invite consultants to work with them. And members will attend national and

*continued on page 114*

# TRENDS

## IN SCHOOL FACILITIES

April	Educational Television
May	Industrial Arts and Home Economics
June	Language Laboratories
July	Physical Education
August	Feeding
September	Science Facilities

A REPORT FROM THE NATIONAL BOARD OF SCHOOL MANAGEMENT

## EDUCATIONAL TELEVISION



**H**ow fast are schools adopting television teaching?

The question may be answered either by counting the number of schools using television or by examining the *trend* (if any) toward the new medium. In this report, we have attempted to do both.

**Counting the schools.** In attempting to take a physical count of the school systems using educational television, an immediate difficulty was encountered. What constitutes in-school television teaching? One system may equip its schools with television sets, turn them on occasionally and let it go at that. Another may have an elaborate closed setup that is constantly in operation. Since our objective was to measure the actual acceptance of television as a teaching tool, and since it can be used to its fullest possibilities only when the schools are preparing and telecasting their own materials, it was decided that closed circuit systems, in operation or contemplated, would be the most accurate measure.

**One more adjustment was made.** Many large city school systems are committed to some form of closed circuit programing or experimentation. To include their figures in any national picture tends to present a higher degree of commitment than can be considered "typical." So, for purposes of this study the sample was restricted to school systems with no more than 12,000 pupils enrolled.\*

**Of 3,015 school systems contacted** during the three months ending January 31, 1961, 320 were planning

to start construction of new schools during the current year. Of these, 41, or 13%, plan to include provisions for closed circuit TV.

**What is the trend?** For practical purposes, closed circuit television is only five years old. Yet, 13% of the districts with fewer than 12,000 students are making provisions for this facility in their new schools. It is important to realize that this is *in addition* to those that already have installed such equipment—a small but not insignificant number. But even these figures may be misleading. Of the 320 districts contemplating construction, only 133 were building secondary schools. As the chart shows (*see opposite page*), when these schools are considered alone, the trend toward educational television is startling. *Fully 26% of the secondary schools being constructed this year will have provisions for educational television.* Knock out the very smallest schools, where the need for closed circuit TV would be less and the cost most burdensome, and the trend becomes even stronger—30% of the secondary schools in districts with between 600 and 12,000 students are installing closed circuit equipment.

**How fast?** In terms of number of schools, these figures may appear to be low. But in terms of *trend*, they are amazingly high. Educational change proceeds very slowly. A study conducted by Dr. Paul R. Mort, of Teacher's College, Columbia University, showed, "A period of about 50 years may elapse between insight into a need and the invention of a solution that will be accepted. . . . After an invention which is destined to spread

## A buyer's guide to TELEVISION

By LAWRENCE F. COSTELLO

*Director, Center for Instructional Television, New York University*

*Mr. Costello is an associate in the Educational Communications Division of N. Y. State Education Department. He was formerly director of the Instructional Television Center of New York University and is co-author, with Dr. George N. Gordon, of "Teaching With Television," (Hastings House, N.Y.).*

*The following aided in preparing this article by completing a lengthy questionnaire on ETV practices: Dean Clifford G. Erickson, Chicago City Junior College; Dr. Edward G. Bernard, New York City; Dr. Alfred L. Villa, Connecticut Department of Education; Charles Hettinger, Pittsburgh, Pa.; Robert Rowe, New York University; Robert S. Edelman, Indiana ETV Council, Evansville; K. E. Oberholzer, Denver; Jack McBride, University of Nebraska; Martha A. Gable, Philadelphia; Dr. Philip L. Lemis, Chicago; and Richard E. Lewis, San Jose State College.*

*(Readers interested in a detailed summary of these questionnaires may receive a copy upon request to SCHOOL MANAGEMENT.)*

■ ■ ■ Television, in one form or another, is a fact of educational life today. Its use can range from assignments to watch selected commercial shows to full-scale spectacles arranged, produced and presented by the school itself.

As soon as a district commits itself to use television in any way within its buildings, it must face the problem of selecting and purchasing the best possible equipment. If this initial step is not taken with care, a district's whole television program can be doomed to failure.

There are many types of equipment on the market and many

throughout the schools appears, 15 years typically elapse before it is found in 3% of the school systems. . . . After practices have reached the 3% point of diffusion, their rate of spread accelerates. An additional 20 years usually suffices for an almost complete diffusion in an area the size of an average state. There are indications that the rate of spread throughout the nation is not much slower." Educational television is growing at a rate far in excess of normal. The "typical" 15 years for 3% diffusion has been reached in five.

**Limitations.** It is important to understand that closed circuit installations involve considerable planning and investment. As the state of the art develops, there will be an accelerated move toward using these teaching aids. Meanwhile, reception from commercial, educational and airborne stations are being planned as a regular part of the curriculum all over the nation. Schools using television in this manner were totally ignored in this study. Had they been included, evidence seems to show that more than half the nation's schools could be considered to be using television in one form or another. For this reason, it may be said that the overall trend toward educational television is even greater than the above figures would indicate.

*\*These figures were compiled by the School Construction Reporting Services of School Management Magazines, Inc. During a 12-month period, each of the 12,000 districts with more than 300 students is contacted to ascertain the district's building plans. Returns included in this report were obtained from November, 1960 through January, 1961.*

PLANNED SECONDARY SCHOOLS			
Total number		With CCTV	
District Size		No.	%
12000-6000	12	5	41.7%
6000-3000	24	7	29.2
3000-1200	35	20	57.1
1200-600	29	3	10.3
600-300	17	0	0
<b>Total</b>	<b>133</b>	<b>35</b>	<b>26.3</b>

## EQUIPMENT for the school

competing brands. How is the school to know which it should choose and which will most effectively solve its own special educational problems?

First, the schools must survey their needs. Do they require equipment for reception only or for origination, transmission and reception?

Second, they must canvass the presently available supply of equipment. One thing should always be kept in mind in purchasing electronics equipment: there is no such thing as "cut rate." Quality is not an abstract factor. The workmanship a district pays for today will prevent

needless maintenance and servicing costs from getting impossibly out-of-hand tomorrow.

### THE SELECTION OF EDUCATIONAL TELEVISION EQUIPMENT: RECEIVERS

Most school districts start their television teaching in the simplest possible way—by installing receivers in classrooms and allowing students to watch preselected programs broadcast over commercial or educational stations. Even in this simplest form of television, selection of

equipment can be a most important decision.

#### Safety

Perhaps the first factor to be considered in choosing television receivers is safety. No precautions, no matter how carefully taken, can prevent all possible accidents; but the probability of accidents can be minimized by keeping "accident prone" equipment out of classrooms.

Classroom TV receivers are within the reach of almost all students. Usually, they are mounted on high mobile stands so that they can be moved from room to room. Because

of these factors, the problem of safety is much greater than it is in the home.

In purchasing television receivers, then, these precautions should be taken:

1. The TV chassis should be of the "power transformer" type. Transformerless, series filament chassis are not acceptable. A number of accidental electrocutions have been caused by such chassis. At the least, they are capable of giving a nasty shock to anyone who touches them.

2. Insist on a nonmetallic cabinet. Cabinets made of nonconductive materials are far safer than those which could conduct electricity from a hot line cord.

3. Heavy duty, doubly insulated line cords should be used. Home-type line cords are not safe because of the rough treatment classroom sets ordinarily receive. The best choice is heavy duty SJ-type double insulated line cord. Many school districts are currently specifying three-wire electrical installations in their new buildings. The three-line conductor cord makes it possible to easily ground the TV chassis, thus cutting down the hazard of accidental shock.

4. Check the back of the sets you are about to purchase. If they are flimsy or poorly fastened to the set, reject them. If necessary, the back of each set should be locked to avoid student tampering.

5. Shatterproof laminated safety-glass (similar to the type used for automobile windshields) should be used to cover the tube face. Bonded safety glass, used on some of the new 23-inch tubes, or tempered safety glass is not free from possible danger. This kind of tempered safety glass shatters into millions of tiny sharp fragments when it receives a hard knock. These particles can cause severe cuts. If, by chance, the picture tube implodes when a set is knocked over, these particles shoot out in all directions.

6. The television set should be placed on a wide-based stand mounted on heavy industrial-type rubber casters. These should be at least four inches in diameter for

easy rolling over door sills. A properly designed stand, 40 to 50 inches in height, should have a base width of at least 33 inches (to minimize tipping) and a depth of 24 inches (to fit through doorways). The set should be either bolted or strapped to the stand.

Many schools use motion picture projection stands or flimsy improvised supports which can easily be knocked over. These should not be allowed in the schools. They are dangerous and they increase the hazard of accidents to students.

### The picture

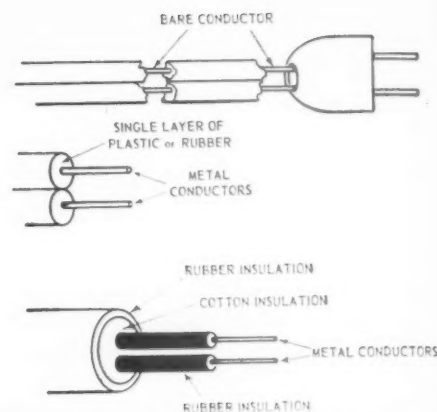
Of course, in considering the use of television in the schools, the basic criterion for success or failure will be the picture the students are able to see.

A student sitting in the front row, closest to the set, has no problem in seeing. But it is sometimes difficult for students in the rear to see writing or other details in the picture. The larger the screen, the less frequently this problem occurs.

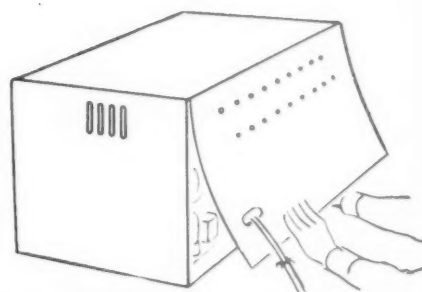
For this reason, the size of the picture tube for a television set to be used in an average classroom should be the largest available on the market. The largest direct view receivers presently available have 24- and 27-inch tubes. (Projection receivers are presently impractical for classroom use because they are inadequate for daylight viewing.)

A report by the Educational Facilities Laboratories, Inc., shows that a 24-inch set gives optimum coverage of 325 square feet. The average classroom area is approximately 750 square feet. For best results, then, two sets should be utilized.

Picture tubes should have a deflection angle (the angle at which the picture is thrown on to the tube surface) not exceeding 90 degrees. Tubes with larger deflection angles, such as 110 degrees and 114 degrees, were developed specifically for home use and to permit thinner cabinets. They cause considerable distortion at the edges of the picture. By and large, these tubes are considerably inferior to 90-degree tubes in linearity (the ability to reproduce faithfully the height and width proportions of objects). The



**Heavy duty line cord.** Doubly insulated, this type of cord is superior to regular cords which wear or break easily to expose charged conductors.



**Locked panel.** This valuable safety feature will discourage "curious" students and prevent shock.



**Shatterproof glass.** Laminated safety glass (top) on the face of the set bonds glass particles, reducing hazard if set is tipped. Ordinary tempered safety glass may shatter (bottom).



distortion rate is as high as 20% greater than that of 90-degree tubes.

A lot of light in a room on bright sunny days can wash out the picture on a TV screen. Light reflections within the classroom can also be annoying. Advertising puff to the contrary, there is no reflection-free TV screen. The most effective way to reduce reflection is to tilt the screen slightly. A light shield, which minimizes the amount of light striking the screen, can also be helpful on bright days. This light shield must extend out at least 12 inches beyond the face of the tube to be effective. Both of these features are important and should be specified when ordering equipment.

The height at which the set is placed can also affect viewing. In general, if the center of the screen is approximately 60 inches above the floor, junior and senior high school students can usually view it in comfort without getting in each others way. For the elementary schools, sets should be set approximately 50 inches from the floor.

### The sound

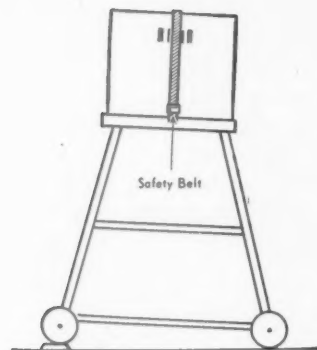
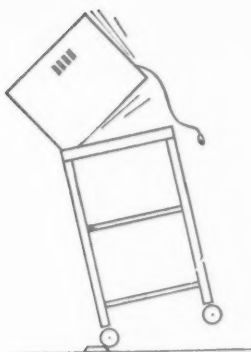
Television's greatest advantage over radio is its ability to picture the things that are being discussed. But too often, the sound system available in the television set is not considered.

Good, distortion-free sound is essential. While most students who have defective vision wear glasses, usually only severely handicapped students use hearing aides. Many "in-between" cases often function at a great disadvantage. If TV sets with home audio systems are used in the schools, their problem is further aggravated.

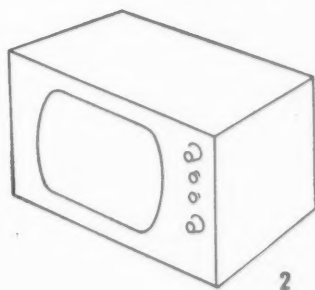
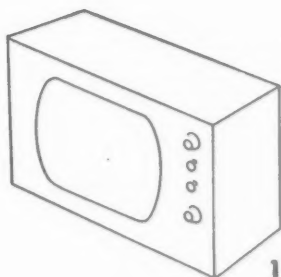
The following are recommended specifications for the audio system:

1. The speaker should be front-mounted.

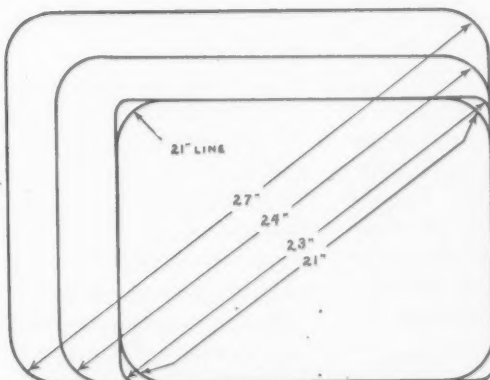
2. Don't be deceived by speaker size only. The key to a speaker of good quality is the size of its speaker magnet. Many larger speakers have small speaker magnets and therefore distort the sound. A speaker magnet's weight should be at least six ounces. An eight-inch oval with



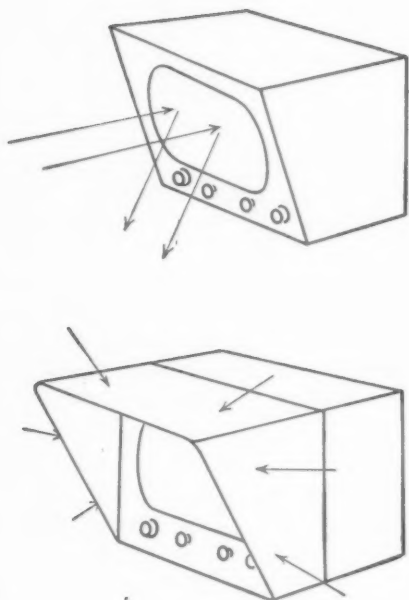
**Secure set** to stand with wide base. Projection stands with narrow bases are prone to tip over, particularly when they are top-heavy. A wide-based stand with large casters is better. For more safety, bolt or strap set as shown.



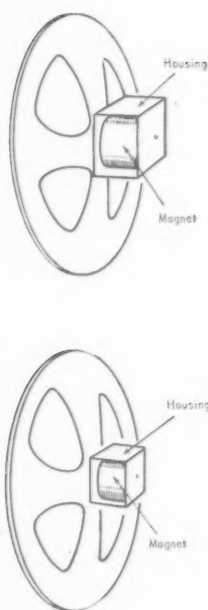
**The angle** of tube deflection can make the difference between a badly distorted picture and one that gives a true representation. Cabinet 1, with a tube deflection of 110 degrees, is thinner, perhaps more desirable for home use, but Cabinet 2, allowing perpendicular tube angle, will provide better picture.



**Size of picture.** Television with 27" tube presents about 60% more picture than a 21" or 23" tube. Picture of 24" tube is about 30% larger than 21" or 23".



**Light deflection.** A tilted screen will deflect light downward, away from viewing angle. High light level in room may require a shield to prevent picture "wash-out."



**Speaker magnet.** This is good indicator of speaker quality. Large magnet relative to speaker size is best. Six-ounce magnet is proper size for eight-inch speaker.

a six-ounce magnet is better in a classroom than a 12-inch speaker with an equal magnet weight, because the low frequency response of the 12-inch speaker results in more echo and indistinct sounds.

3. Use a high fidelity type audio amplifier, preferably with a push-pull circuit with a rating of at least 10 watts. Although its high power capability is rarely used, the advantage of this amplifier is that much less distortion of the sound occurs at required power levels. The push-pull type of amplifier minimizes sound distortion.

4. A wide range tone control is effective in rooms with poor acoustical properties. By reducing low tones, which cause the most echo, this control can make voice reproduction clean and lifelike. It is especially effective in language programs, where students must distinguish between similar sounds.

#### Desirable extras

Many sets may be found which contain all the features mentioned previously. Your choice, then, may be dictated by the availability of certain desirable extras. Among these are:

1. A locked control panel. This is often desirable to prevent students from tampering.

2. An output jack. This makes it possible to tape the audio portion of programs for possible use in reviewing lessons.

3. Cord storage. An automatic reeling device for storing line cord when the set is rolled from room to room can be an important convenience.

4. A long cord. A cord of approximately 20 feet in length is advisable since it makes extension cords unnecessary.

5. Antenna. The set should be constructed so that its antenna and input can be connected either to a standard 300 ohm antenna ("rabbit ears") or to a 72 ohm master antenna system which serves the entire school building.

6. Tuning controls. Controls for volume, contrast, brightness, tone, horizontal and vertical hold and tuning, should be front mounted for easiest use.

7. Markings. All controls should have permanent, easy-to-read markings that will not wear off in their first few months of use.

#### Maintenance and repair

No matter how well they are built, all television sets will at one time or another need repair. In a school, where they are subjected to unusually hard use, this is especially true. To guard against the problems caused by breakdowns, it is a good rule of thumb to have one stand-by set for every 10 in use. Tubes should be easily accessible for testing and replacement without the necessity of removing the chassis from the cabinet.

If the chassis must be removed, it is desirable that the chassis controls and tuner should all be mounted in one unit. The picture tube may be mounted separately from the chassis so that the chassis can be easily handled.

A minimum of special nonstandardized parts should be used. As the set ages, such parts become difficult to procure. If possible, receivers should be hand wired. Printed circuits are sometimes inferior to circuits wired by hand.

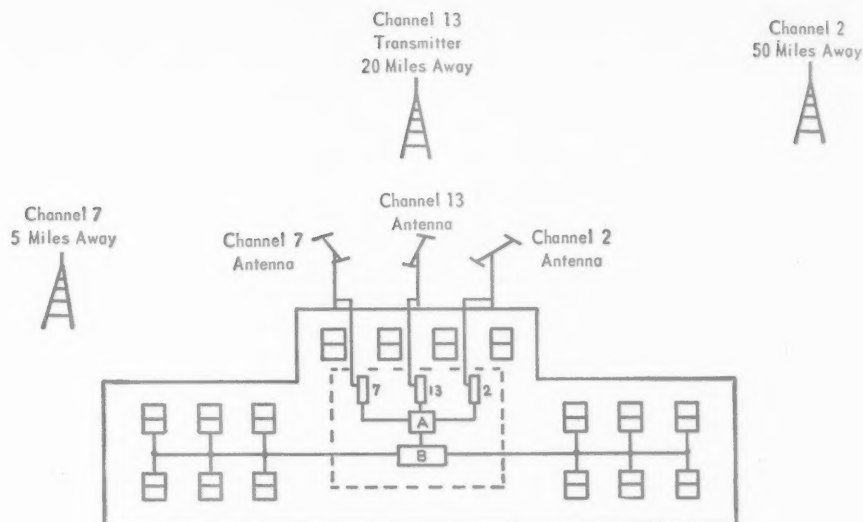
The chassis should be large, with a single layer wiring, if possible, for ease of servicing.

A turret-type tuner is usually preferable to the rotary switch tuner. Switch-type tuners frequently do not last as long and require more service.

As soon as television of any type is introduced into a classroom, the school must face the problem of reliable reception. The best answer, for short and long range use, is a master distribution system.

In time, most schools will install such systems. Master antennas may also provide the method for distributing closed circuit signals for carrying live or film program material from room to room in a single school building. Such a system could greatly improve the availability and use of films, slides and other audiovisual materials.

When installing a master distribution system, it should be remembered that this system will be expected in time to pick up signals from VHF and UHF channels. The difference in cost between a good



system designed to meet all school needs—present and future—and a cheaper, improvised system, is not sufficient to justify a sacrifice of quality.

Most areas will eventually be served by a number of VHF (very high frequency) and UHF (ultra high frequency) channels. Most reception, at present, is on VHF but it is likely that the number of UHF stations in operation will increase during the next few years.

To insure best reception, the master system should be designed so that a separate antenna is installed for each channel which will serve the school. Each antenna can then be oriented to the direction for best reception and minimum interference.

Master TV distribution systems installed for home use usually include one broad band antenna feeding its signal into a broad band amplifier. Broad band units are relatively inexpensive and can handle all the VHF channels. However, UHF channels require special treatment. Usually, signals on different TV channels are transmitted from different locations and reach the antenna at different signal levels. When a broad band antenna is used, it must be installed facing a general direction which allows for the best compromise in reception of all the channels. This is sufficient for most home uses, but it is not good enough for use in the schools.

To insure best reception, the master system should be designed so that a separate antenna is installed

for each available channel. If this is done, each antenna can be oriented for best reception and minimum interference. The signal received should then be sent through an individual amplifier or pre-amplifier for its channel, and amplified to the level for mixing and distribution.

Even with individual antennas for each station, UHF channels, which transmit at extremely high frequencies, cannot be economically distributed in a master TV system unless they are first converted to VHF and then transmitted. It is important that administrators understand that when a master system is used *it is not necessary to purchase sets capable of receiving UHF signals*.

A UHF channel can be converted by the use of converters designed specifically for this purpose. A number of schools have attempted to use converters satisfactory for home use with their master systems, but soon found that such attempts waste money, time, and program material.

As with home-type sets, distribution systems, etc., these converters are designed to operate in circumstances where the viewer must adjust them periodically while watching a television program. Changing temperatures often cause a frequency response shift for which the viewer must compensate. Crystal control converters, however, which do not exhibit this drift when receiving UHF channels, have been designed and are on the market. With a master system it is necessary

**Signal reception.** If directions and distances of transmitters vary, individual antennas (which can be oriented without compromise) and pre-amplifiers should be provided for each channel. Pre-amplifiers will equalize strength of the signals, to be mixed at **A**, amplified and distributed at **B**.

to use these crystal control converters.

One of the beauties of a master antenna system is that reception outlets can be inexpensively provided in all classrooms. All that is involved is tapping into the transmission line and running laterals to each room. If this is done during the original installation, it is not an expensive job; it does become costly if installed at a later date. For this reason, it is good practice to install connections for all rooms during the initial installation, even if they will not all be used immediately.

#### Stand-by equipment

The master system is worked hard because it operates continuously. For this reason, parts must be replaced more often than with other equipment. When a part does become defective, the master system usually becomes inoperative. At present, the author does not know of any master antenna manufacturers who have designed their equipment so that stand-by arrangements automatically take over when the more common type of failure occurs.

Since thousands of dollars in teaching time and other school expenses are lost because of such a failure, some relatively low cost means of decreasing this loss would be worthwhile. Such devices will probably be manufactured when this problem is called to the attention of the companies making master TV equipment. Until that occurs, however, schools would do



well to be sure that repair equipment is at hand.

### **"Hooking up" school buildings**

At present, the most common method of "hooking up" schools separated by long distances (more than 2,000 feet) is by means of coaxial lines rented from the telephone company, a common carrier company, or purchased by the schools themselves. Other means of "hookup" are through low powered UHF transmitters and microwave links.

If you contemplate "hookup" by low powered UHF transmitters, recognize that these transmit their impulses in a fashion similar to the regular TV channels. FCC approval for their use by schools will probably be required. These transmitters do have definite advantages.

1. When a number of schools are involved, their cost is low.

2. When more schools are built in the area, no additional expense is involved in "hooking in" the new buildings.

3. The entire community can view broadcasts by adding a converter (which costs about \$30) to their home TV receivers. Thus, sick or handicapped children, libraries, churches, private schools, the public, etc., can enter into the ETV program. The possibilities for community uses of these outlets are numerous.

In the near future, microwave "hookups" may be used extensively. They would function in much the same way the coaxial lines presently operate. Their advantages or disadvantages compared to coaxial transmission will probably be determined primarily by economic considerations.

### **TV CAMERAS AND STUDIO EQUIPMENT**

ETV equipment is similar to a chain with three links: origination (cameras and studio equipment), distribution (master antenna equipment), and receiving (sets). The most important link is the origination equipment because any problem, defect, or malfunction here is reflected in performance in every room to which the program is distributed.

Since cost is a major considera-

tion, almost all closed circuit systems employ vidicon cameras instead of the more sensitive and more expensive image orthicon used by commercial broadcasters. The vidicon instruments have been widely adopted by educators and by industry because of their relatively rugged construction and low initial and servicing expenses. Even the most expensive cameras, however, still leave something to be desired in terms of quality. Therefore, too much further compromise in the quality of origination equipment is usually an unsound practice. School authorities are practically unanimous in recommending a complement of equipment which offers the best technical facilities for transmission, rather than cheaper, but inferior, apparatus.

This is especially significant in light of the fact that a considerable number of schools have already purchased camera and studio equipment which they have discovered was not satisfactory for teaching via closed circuit TV. Perhaps this is because there is a tendency on the part of administrators, who are not familiar with educational broadcasting, to be impressed with the novelty of the medium and to purchase gadgets which are new and tricky.

The recommendations which follow should be considered basic for a satisfactory closed circuit system:

#### **1. Enlargement within a single room.**

Here, television functions as a sort of super visual aid and allows the teacher to show minute objects or operations (such as the dissection of a frog) to the entire class at one sitting. The television camera is used to give each child in the room a "front row seat." Since this takes place within a single room, and since there is only one camera involved, there is no need for an audio system or video switching. The quality of the camera used will depend upon many factors. These include its ability to resolve details, the compatibility of the camera with other television equipment in a school, the ease of operation, and the cost compared with other audio-visual devices designed for this same purpose.

This system usually consists of

one camera located at the teacher's desk and several receivers placed strategically within the classroom so that every student has a good viewing position. The receivers are connected to the camera equipment with coaxial cable.

#### **2. Multi-classroom closed circuit television.**

This use of television for ongoing instruction requires special kinds of equipment to insure the quality of the lesson. To begin with, a minimum of two live cameras is essential. These permit the lesson to move from the general to the specific with no interruption in the continuity of the material.

There is general agreement that the cameras should include:

**Viewfinders.** Each camera should have an electronic viewfinder with at least a five-inch screen. This viewfinder should be made so that it is separate and removable from the camera and so that the camera will continue to operate without it. Cameras without viewfinders have been used for instructional programs, many times at the expense of the lesson. In order to focus and adjust the camera, the cameraman has to look at a television set in the studio while the camera is on the air. The result in the classroom is wasted time while the picture is being adjusted.

**Lens turrets.** Each camera should have a lens turret with provision for at least three lenses. The turret should be controlled from the rear, have positive locking, and indicate to the operator which lens he is using. Since most school systems will use vidicon cameras, a standard complement of lenses is necessary. For one camera, you need a one-inch lens which is normal for 16 mm and vidicon cameras, a half-inch wide-angle lens, and a two-inch telephoto or enlarging lens. For unusual situations you may wish to have longer or shorter lenses in addition to the above. For the second camera, a zoom lens will be useful. A variety of lenses permits a flexible use of the cameras which can add interest to an ETV lesson.

#### **Camera construction**

The recent trend in this country toward compact equipment has

sometimes been accomplished at the expense of reliability or quality. While small lightweight cameras are of interest to the military and certain other specialized fields, they offer no real advantage to educational broadcasters. In fact, they have several disadvantages.

Heat is one of the greatest factors causing deterioration in electronic equipment. The cramped quarters found in most of the presently available vidicon camera equipment may cause breakdowns from this cause. Paradoxically, the increased weight that goes along with size, makes for easier and smoother movement of the camera and dolly during the television presentation. Heavy-duty construction usually includes careful planning for ease of maintenance and accessibility. Moreover, a larger camera usually allows the space necessary for modular construction which leads to economies in maintenance.

In addition, each camera should have its own cooling fan or blower to force out the heated air.

Every camera used in a studio should be on a tripod or dolly to allow for instant vertical adjustment, and should have large-diameter rubber-tired wheels for smooth movement over the studio floor. The camera and tripod or dolly combination should be heavy enough so that small imperfections in the studio floor will not jar the camera and make the picture jiggle.

#### Camera control equipment

The camera equipment described above is usually designated as a professional vidicon camera. The control equipment (the electronic adjustments for picture quality) for this type of apparatus is usually located in a control room. This equipment should consist of:

1. A waveform monitor (oscilloscope) for each camera, necessary so that the picture quality can be adjusted for optimum visibility before it is shown over the system.

2. A separate monitor for each camera and a master monitor. These monitors (television receivers) constantly display the picture taken by the camera to which they are attached, thereby giving the director the opportunity to see the picture coming from each camera. He can make corrections as to centering, fo-

cus, etc., before putting the picture on the system. The master monitor is the director's reference as to which camera is on the system.

3. A switcher, in order to select the picture from either or both cameras. A switcher-fader combination provides for instant cuts from one camera to another, and makes it possible to dissolve from one camera to the other, or superimpose one camera over the other. The educational advantages inherent in such equipment far outweigh the costs involved.

#### Sync generator

In addition to the camera and control equipment, one other piece of equipment is essential to closed circuit educational television. That is the sync generator. This piece of equipment is the heart of every good television system. It provides the impulses which trigger the various electronic processes that result in the miracle of television.

There are several types of sync generators in use and they all provide television pictures, but there is one system that has been adopted by the electronics industry as the standard. This is called RETMA sync. Several companies manufacture generators that meet this standard. The range in price is from \$2,000 to \$5,000. Since this is the heart of the television system, it is wise to purchase an additional generator as a stand-by unit in case of failure.

#### Film chain

A film chain is not a necessity, but it can be useful in the operation of any ETV system. A film chain is

nothing more than an arrangement by which several types of projectors are put through a system of mirrors or prisms and picked up by a fixed television camera. These projectors are usually constructed so that they can be remotely controlled by the director at a console. The number and type of projectors in a film chain will be determined largely by the program of the installation, but nevertheless, the television camera used with the film chain should be identical in type and model, with the studio cameras. This is so that in an emergency this camera may take the place of one at the studio floor.

#### What about obsolescence?

School administrators need not worry too much about obsolescence. Experience has shown that well designed and ruggedly constructed equipment manufactured as long as 20 years ago is still operating and giving excellent service. At the present time, it appears that no startling new techniques are on the horizon that will make present receiving or broadcasting equipment obsolete to any important extent.

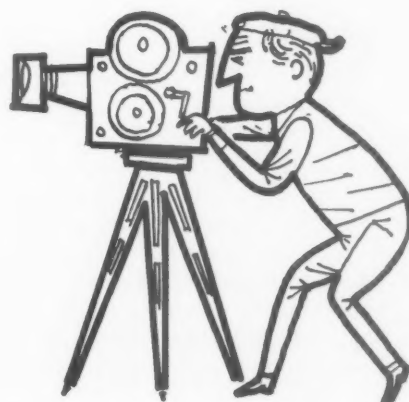
As he chooses his equipment, as he considers various specifications for it, the administrator will do well to keep his eye on the future. Whatever his needs for ETV at the moment, they are almost certain to increase in time. For this reason, a new ETV installation should be designed to serve as a nucleus for the installation which an individual school or school system will need tomorrow, next year or in the next decade.

#### Expansion

If an administrator looks ahead, closed circuit installations can be expanded; studio facilities can be multiplied; more receivers can be purchased often at vastly lower prices—if the need for them was anticipated when equipment was first purchased. For this reason, it is often better for an administrator to bend every effort to assure that power supplies, antenna outlets, storage and studio space and other facilities are more than adequate for immediate needs.

His extravagance today may be good, sound, economical, common-sense tomorrow.

**End**



# A new idea for student activity cards

High school students in Hayward, Calif., carry a single embossed plastic card. It has taken the place of four others. District's cost: 12 cents each. Results: better bookkeeping in offices and libraries.

By MARTIN DERODEFF,

Curriculum Assistant, Hayward Union High School District, Hayward, Calif.

■ ■ ■ Last year, our district experimented with a multi-purpose student activity card in one of our large high schools. The experiment was so successful (and inexpensive) that we are expanding the project to other schools in our system.

The plastic embossed cards we are now using take the place of separate cards formerly used for four different functions. Our students were carrying cards for general identification, borrowing library books, admittance to school activities at reduced prices, and transportation on school buses.

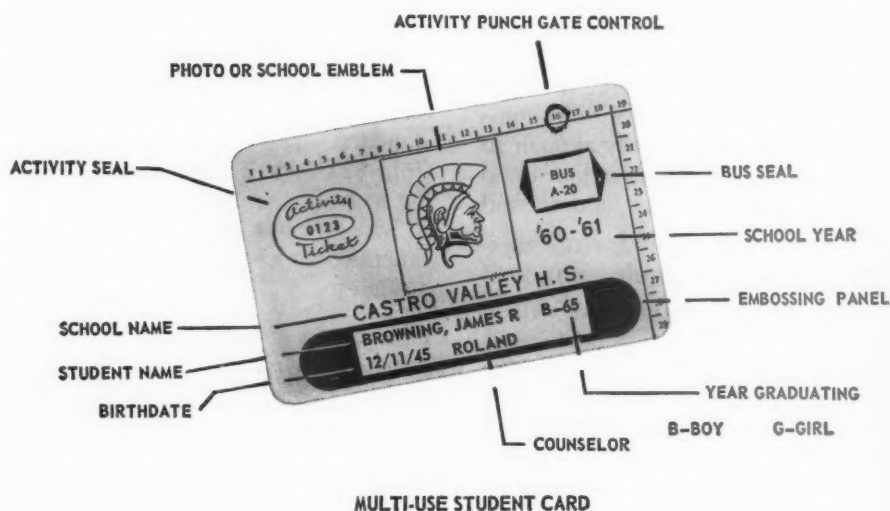
Now, for about 12 cents a year per student, everything has been included on a single wallet-sized card (see illustration at right).

Here's how we use the multi-purpose card:

Each student is issued his card at the beginning of the school year. When he pays his fee for school activities, an office clerk affixes a self-sticking seal to the card, acknowledging payment of the fee. The seal itself has a serial number, which is recorded with the student's name on a sales roster. This enables bookkeepers to account for funds with ease.

When the student attends a school function, the card is his ticket—

*text continued on page 84*



Here is a list of equipment and materials used by the Hayward Union High School District to produce the multi-purpose student activity card:

**Plastic cards**, 2½" by 3½", glossy white both sides. **Seals**, approximately ½" by ¾", strong, thin paper or plastic with glossy surface and adhesive back, pre-printed and numbered (except for bus route). Seal and adhesive is of permanent type; seal is mutilated if removed from card. **Hand punches**, making holes about ⅛" in diameter. **Graphotype machine** for embossing (rental, with option to buy). **Tipping machine** to put color on embossed letters (rental, with option to buy). **Imprinters** (purchased, three for each school).



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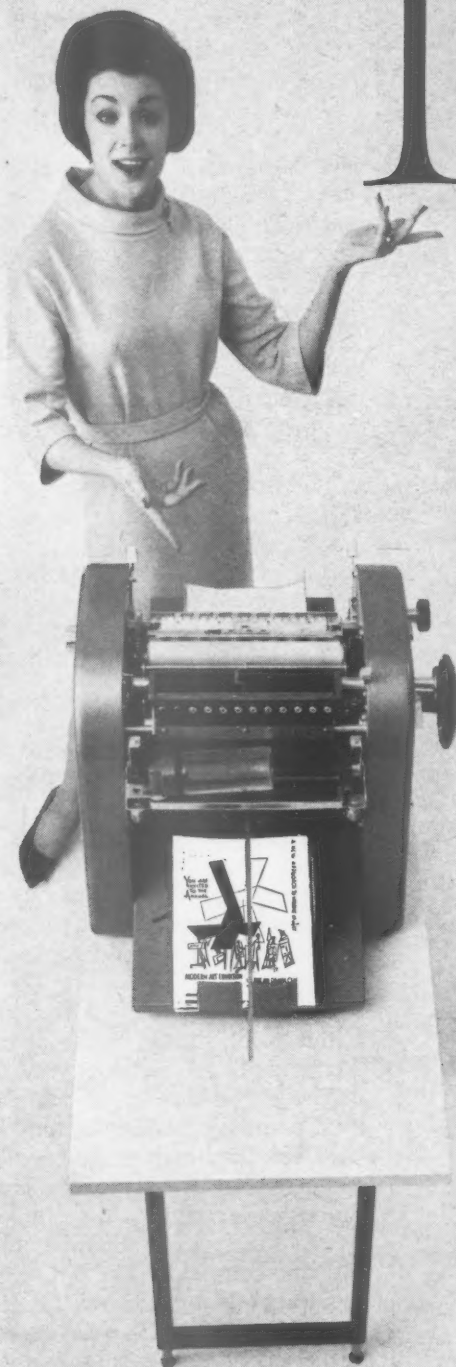
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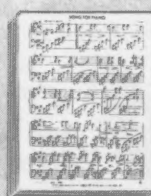
EXAMINATIONS



COLORFUL POSTERS



SCHOOL NEWSPAPERS

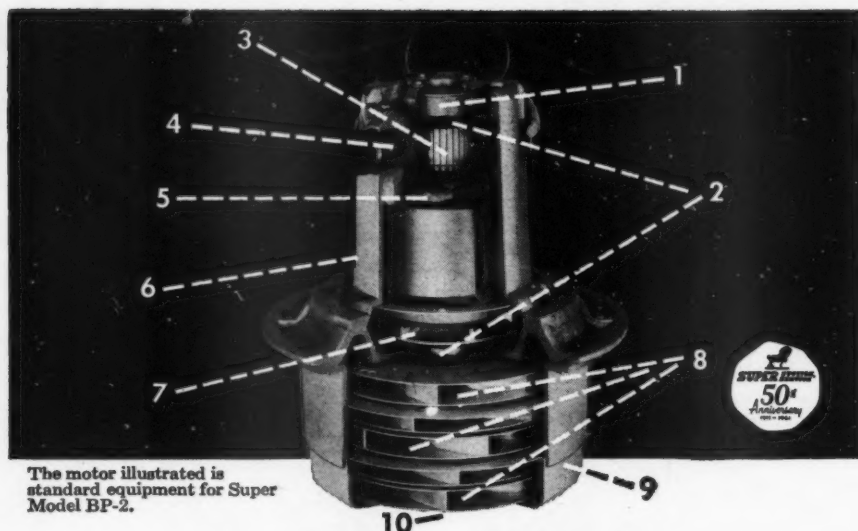


SHEET MUSIC



THEME COVERS





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The big difference between a Super Suction vacuum cleaner and all others is the electric motor—the heart of the vacuum cleaner. Each and every part of the specially designed Super Suction motor is manufactured in the Super factory. To our knowledge no other manufacturer of industrial vacuum cleaners can make this claim. A few buy the parts and assemble the motor. The others buy the same motors from the same motor manufacturer. You practically always get an identical motor regardless of which cleaner you choose.

The Super Suction motor is built to—and does—give you 20% more air at 20% more velocity with the standard 1½ inch orifice. It permits the use of larger hose, more attachments and longer extension tubes. Works faster, more thorough. Lasts longer. Super cleaners, large and small, from the small-area, low priced units to the big volume, heavy duty Super Suction machines are equipped with a Super motor of a size to amply meet the job requirement. There is a Super to exactly fit your job and budget. There is a Super distributor near you. Let him show you "The Big Difference" or write for catalog and specification data.

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1. **Steel Bearing Housing** . . . Bearing is housed in steel instead of aluminum motor frame. Housing expands under heat at same rate as bearing, eliminating "play" around the bearing. If bearing fails, only housing needs replacing, not complete motor frame.
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5. **Field Coils** . . . Protection wrapped, dipped and baked with insulating material. Others use no covering to protect wire.
6. **A Rigid One Piece Motor Frame** . . . Guarantees alignment of armature and fan assembly from bearing to bearing, points of support.
7. **Ventilating Fan** . . . Better cooling system. Fan mounted in bottom of motor compartment pulls clean, dry air through channels directed over carbon brushes and commutator. Result is lower temperature rise, longer motor life.
8. **Suction Fans** . . . Almost twice as much blade depth and blade area allows air to pass with maximum efficiency without back pressure or turbulence.
9. **Fiberglass Fan Cases** . . . Non-rusting, non-corrosive, easily removed when necessary to service armature. Other motors use aluminum or steel which weld together under attack by cleaning solutions.
10. **Armature Shaft** . . . Larger diameter to withstand heaviest torque load.

### A few facts about "Suction" . . .

Static water lift as an indicator of suction is meaningless. At this closed orifice the machine is not moving any air—not doing any work. The Super Suction motor is designed to do more and better work at less labor cost on the cleaning job.



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(Circle number 741 for more information)

et of admission. School activities are numbered; an attendant punches the appropriate number out of the card's border when the student enters.

At the library, the student presents his card and the book he wishes to borrow. The librarian places the embossed card, and the library card, in an imprinter which transfers the student's name onto the latter.

If the student rides a school bus, his card has a seal in contrasting color and design from the activity seal. The bus seal has space for bus route and stop identification.

After being absent from school, he presents his card to an office clerk who puts it into an imprinter with an admittance slip. The date and time is also stamped on the slip by the imprinter. One copy of the slip is given to the student for presentation to teachers, and one copy is retained by the attendance clerk.

Cumulative record folders, absence record folders, health cards, and issue forms for supplies and books can also be prepared with the embossed cards and an imprinter.

### The card

The card itself is similar to a commercial credit card. The plain, unembossed cards, as well as the bus and student activity seals, are ordered from local business firms. We order about 150% of our projected enrollment to allow for errors, card losses and the addition of new students.

The only printing on the cards, at this point, should be the name of the school, the school year, the bordered numbers for student activities, and the school emblem.

When they arrive, the cards are embossed on a machine by clerks. Embossing includes the student's name, sex, year graduating, birth-date and counselor. The bus seal (if necessary) is affixed, but the activity seal is not placed on the card until the activity fee is paid.

After a few hours of training by representatives of the Addressograph-Multigraph Co., our clerks were producing 75 cards an hour.

Although the costs for the equipment and materials are high, we find that in actual outlay of funds, we are saving money. Our expenses are less than for the total cost of all the previous cards in use. **End**

# WHERE *Daylighting* SCORES HIGH



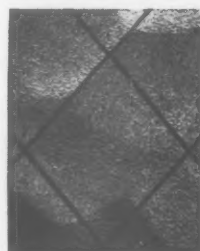
North Salinas High School, Salinas, California,

in which approximately 2,000 sq. ft. of Mississippi's Smooth Rough MISCO wire glass has been installed in skylights.  
Architect: Jerome Kasavan, Salinas, California  
Puttyless Aluminum Skylights by O'Keeffe's, Inc., San Francisco, California

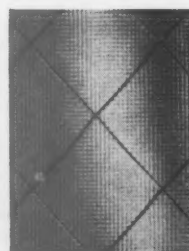
Broad bands of beautiful, rugged, Smooth Rough MISCO wire glass in the new North Salinas High School, Salinas, California, are the "best things under the sun". For these large skylights help brighten the entire gymnasium without glare or harsh shadows. Architect Jerome Kasavan and consultants selected translucent Smooth Rough MISCO to provide high-level diffused daylighting in a virtually windowless area, to make seeing easier, reduce the need for artificial light and accomplish a feeling of spaciousness.

Smooth Rough MISCO wire glass is a handsome pattern in keeping with modern architectural trends. And MISCO offers positive protection as a fire retardant in skylights, windows, partitions, doors and wherever else fire and breakage protection is a requisite.

When you build or remodel your schools, make the many distinct advantages of light diffusing glass part of your plan. Specify glass by Mississippi. Available in a wide variety of patterns and surface finishes at better distributors everywhere.



SMOOTH ROUGH MISCO



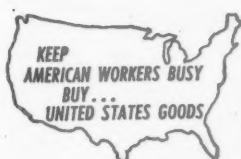
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**Every student has a "fresh air seat"** with TRANE's new Unit Ventilator system. Exclusive *Kinetic Barrier* action provides continuous

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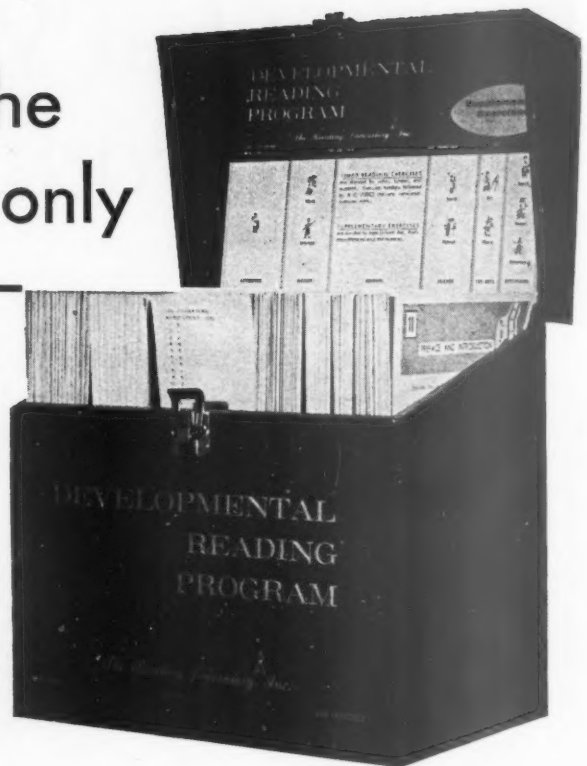
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# Pre-planning can make parent-teacher conferences work!

In Washburn, Wis., meetings between parents and teachers are held on a regular basis—whether problems exist or not. To insure success, schoolmen briefed everyone before setting up the program.

By JAMES D. PERRY

Superintendent, Washburn City Schools

■ ■ ■ "Parent-teacher conferences? Who needs them? If a student isn't failing in his work, isn't about to be dropped from school or isn't in any other kind of trouble, why should the school, the teachers and the parents waste time in endless conversations about Johnny's habits, his problems and his cute little mannerisms?"

This attitude is seldom expressed so bluntly, but it exists in almost every school district. And it is held by parents and school people alike. Here in Washburn, Wis., we think it's wrong.

The time to stop trouble is not after it starts. Nor do only parents of troubled children need school guidance. Regular parent-teacher conferences are worthwhile, but only if they're properly planned, and students, parents, and teachers really understand what they're all about.

For years, our conferences with parents were largely problem centered. As a result, most parents were indifferent—unless their children were threatened with dismissal from school, or some equally drastic step.

Open school week didn't do the trick either. There was too much going on at one time. Teachers could not teach, play host to visitors, and fit in brief meetings with individual parents at odd moments during the day.

We set aside one full day between semesters for conferences with parents but, unfortunately, few parents had formal, scheduled appointments; so little advance preparation could be done before each conference.

We were far from satisfied with the way our counseling services were meeting the needs of our students. We felt that we needed a

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completely new program of preventive guidance. An essential part of the program was to be non-problem conferences between parents and teachers.

### Preparation was critical

We knew it would take a tremendous effort to sell the idea to all the people involved. Our first major task was to gain the understanding, confidence and cooperation of everyone concerned.

**Board of education.** Our plan called for a school year of 188 days—180 days of school, three parent-conference days and five teacher workshop days. The board allowed us the additional days we needed and even made salary adjustments for the extra time added to the school year.

**Parents.** We held conferences with all the parents in our district, asking them to tell us exactly what they would like to learn at parent-teacher conferences. As a result of these meetings, we developed a conference worksheet to be used by both parents and teachers during scheduled conferences. This helped parents prepare intelligently for meetings and permitted them to become active participants when they sat down with teachers.

**Students.** No parent-teacher conference program can be successful without the support and cooperation of the student body. We had to persuade the students that inviting their parents to school was not for the purpose of settling grievances. The student council did a great deal to convince the student body of our sincerity. Invitations sent home by the students added a more personal touch to our program. The purposes of the conferences and the urgency of having parents attend was stressed almost daily by the staff and the student council during this period.

**Teachers.** During in-service meetings, we stressed the how's and why's of the proposed conferences. Our staff learned how to establish a proper atmosphere when meeting with parents, how to keep a conference going and how to give parents all the facts about their children.

Teachers were also given refresher instruction in the interpretation of test results and on the meaning of percentile rank. Since the staff was probably the most re-

luctant of all groups to undertake the conference project, we carefully explained and discussed every aspect of it at our in-service meetings. Enthusiasm gradually increased among the teachers as the advantages of the proposed program came to light.

### The program underway

After several final workshop days, we began scheduling the first individual conferences. These were spread over a two-day period approximately one week after the first nine-week grading period. Parents were given a block of time from which to select appropriate meeting hours. Their choices were double checked for conflicts by the guidance staff before final notices were sent.

Although conferences were limited to 20-minute periods, they proved to be adequate for most purposes. Nursery facilities were provided where parents could leave their pre-school children while they conferred with teachers. High school students served as baby-sitters. Refreshments were served to teachers and parents. Everything was designed to create a relaxed, informal atmosphere. Seventy-five percent of our elementary school parents and more than 60% of our high school parents attended.

### What we've achieved

We have noted many specific benefits resulting from our conference program. Here are the reactions of those immediately involved.

Teachers were amazed at the variety of information they gained about students in their classes. Parents willingly filled them in on personality traits, interests and reactions to school in general. Most of the staff found these new facts extremely helpful.

Parents particularly liked the interpretations of achievement test results and pupil scholastic aptitudes. Our revised reporting system (completed as part of this project) was also explained to them at this time together with our method of student grading.

Our conference program has succeeded in establishing full communications between school and home. More than that, it has provided a way to help teachers and parents work together for the betterment of all the children of our district.

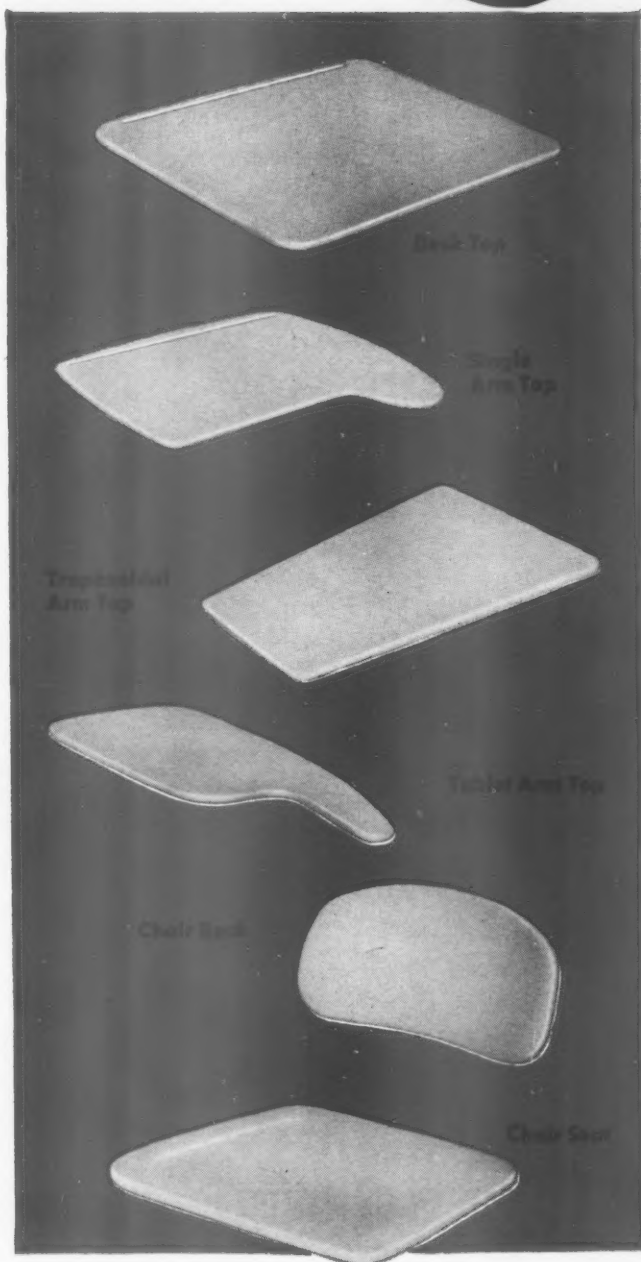
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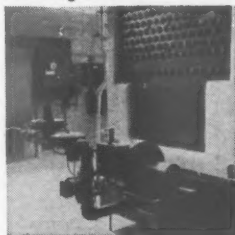
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## Can your teachers have duty-free lunch hours?

In Pasadena, Calif., 80 teacher-aides assume lunchroom and playground supervisory duties. Total annual cost, \$35,000.

■ ■ ■ Elementary school teachers in Pasadena, Calif., are enjoying a full hour for lunch in lieu of the usual 20 to 25 minutes.

School officials have assigned 80 teacher aides to noontime duty in elementary lunchrooms and playgrounds for an hour each school day. The annual cost is about \$35,000.

Previously, Pasadena's elementary teachers supervised the cafeterias and playgrounds during their lunch hours. Schoolmen found that the harried teachers were often less effective during afternoon classes.

To improve the quality of instruction, and boost morale, Superintendent Robert E. Jenkins recruits house-

wives living near the schools to help out during lunch. Each aide is given a two-hour training session before going to work, and additional in-service training is scheduled during the year. At least one certificated teacher is on call when the aides have duty.

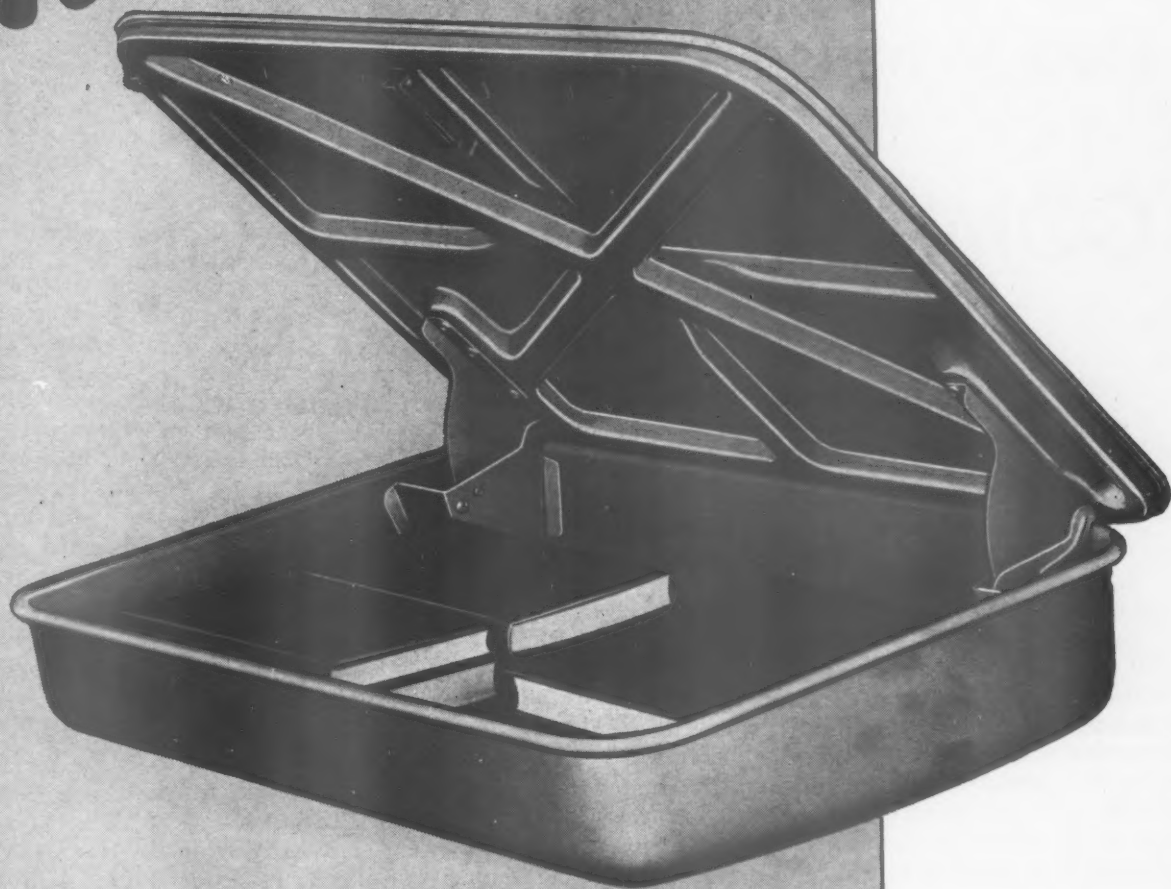
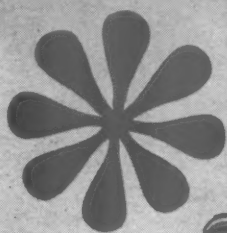
Additionally, local college students are employed to supervise playground activities immediately after school.

The program, adopted unanimously by the school board, is managed by the elementary school principals; but the Pasadena school recreation department handles additional recruiting, training, assigning and payroll computing.

**End**

**After-school** activities are supervised by students from nearby colleges.





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# How to house a

# COMMUNITY COLLEGE

A community college needs special facilities of its own. Here, two experts tell what it should—and shouldn't—include, and eight architectural students present their concepts of community college facilities.

■■■ To be successful, a community college must have its own facilities. It can start in rooms or buildings borrowed from other schools, but it cannot reach its full potential until it has a real campus of its own.

The need for publicly supported community colleges can no longer be questioned (*see SM, Feb. '61, page 37 for a discussion of this problem*). Getting started is largely a matter of time and planning (*see SM, March '61, page 56*). But, as D. G. Morrison, specialist for community and junior colleges of the division of higher education, Office of Education, told SCHOOL MANAGEMENT editors last month: "We have found that the community college grows very much faster after it gets its own facilities. There's always the danger that a 'temporary' home will become very permanent."

What kind of a building does a community college need? Can the 13th and 14th grades operate in high

school buildings? Should board members turn to nearby four-year colleges for models?

These were some of the questions a SCHOOL MANAGEMENT editor recently posed to two experts in the field. Dr. N. L. Engelhardt, Jr., partner in the firm of Engelhardt, Engelhardt, & Leggett, educational consultants, is currently working on the Hagerstown, Md. Community College. Professor Edward Romieniec, fourth year design critic of the Columbia University School of Architecture, has been active in the design and construction of community colleges for many years.

In the following article, answers are given to 10 basic questions school board members and superintendents have raised concerning the construction of a community college. Answers are drawn from the tape-recorded interview with Dr. Engelhardt and Professor Romieniec.

---

## Question one

**Can we use our high school buildings as a model for the construction of a community college?**

■ To answer this question, you must start with the program you expect your community college to provide. You must consider the dif-

ference between the high school program and the community college program.

First of all, both should be comprehensive. Both should include opportunities for learning on the part of many people in all walks of life. In terms of the community college, this is fundamental because this should be a local college that can really react to the needs of the

community. It has the power to change and to shift. It doesn't have to establish any format or any set curriculum in which it must operate. Nor does it have to worry about matriculation or non-matriculation. It's completely free to develop programs to meet the needs of the community.

This implies that the community college should become a cultural



center of the area. As such, it is going to contribute to the informal cultural developments within the community. So the community college must provide all of the opportunities any cultural center might have—auditoriums, music rooms, television and movie studios, etc. You have to design to attract all sorts of people, and so that you can have easy operation with large groups attending musicals, festivals, plays, athletic activities or lectures.

You must remember, too, that attendance at a community college is voluntary, not compulsory. Moreover, because it is catering to the needs of the entire community, it attracts many adults as well as teenagers. This means that it must have more freedom of action and movement than might be found in a high school building.

So, in answer to the original question, although in terms of comprehensiveness the community college does resemble the good comprehensive high school, it must provide more extensive facilities and more freedom of action.

## Question two

**What kind of academic facilities (classrooms) would be wanted in a community college?**

■ Again, we must talk in terms of program. In a community college, students can have more large group experiences and more small group experiences than is usual in a high school. We can operate many more seminars effectively also. Because of the intense interest on the part of all the students who are coming to the college, we can expect that they will be much more competent to secure knowledge and guidance from libraries, lectures, and large laboratory sections, so long as we provide them with opportunities to follow these experiences with small group discussions.

Some high schools are now moving in this direction with what they call "flexible space." This is not new at the college level, although there is still a great deal of controversy about breaking out of conventional 30-student classrooms in many high schools. There can be no debate about providing for large and small group experiences in the community college. A community college must have room for an instructor to lecture to 50 or 100 students. It must also have room for an instructor to meet with a few students at a time—or even with one student alone.

## Question three

**Would the community college laboratory facilities differ from those in a high school?**

■ First, in terms of language laboratories, a college can handle larger groups than can a high school. In the high school, generally, half a class works under teacher guidance. In the college, it should be possible to have a much larger group of students working at one time, with or without an instructor.

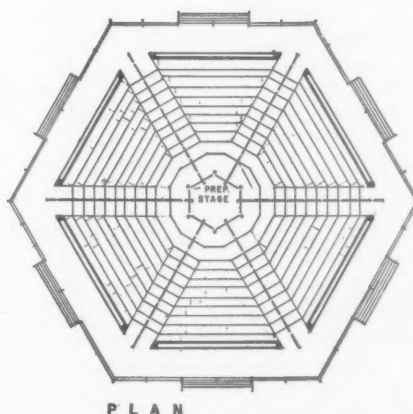
In terms of science laboratories, the same idea holds. At the college level, 50 or 75 students can operate in assigned laboratories at any one time. They can be helped by laboratory assistants, rather than by the single teacher normally found in a high school. Of course, if you do operate larger laboratories in languages or sciences, it is absolutely necessary that room be provided nearby where smaller groups can get together and discuss the work that they have been doing, among themselves.

## Question four

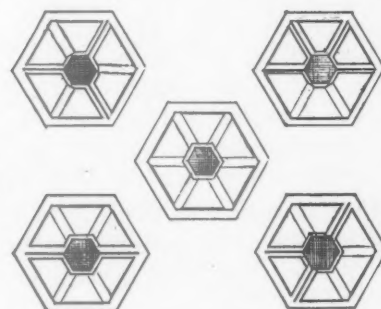
**What kind of a library would be desired in a community college?**

■ This is actually an extremely controversial question. You must remember that the community college, unlike the four-year college or even the high school, is *not* only devoted to the academic pursuits that are ordinarily connected with the use of books and other resource material of that type. A community college must provide for all levels of learning, which includes the

LARGE GROUP LECTURE HALL



1/16

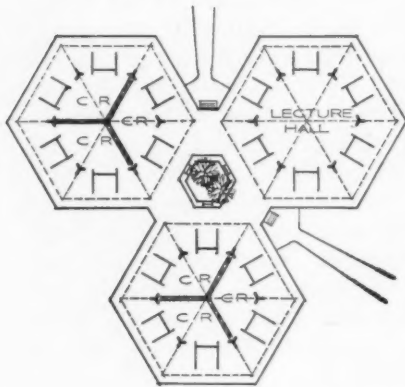


CORE FLEXIBILITY

**Community colleges must have large group facilities. Here is a student architect's conception of a flexible lecture hall. (For his complete plan, see page 103.)**

"The community college should become a cultural center of the area—

#### FLEXIBLE CLASSROOMS



**Classroom needs** will constantly change. Here a student architect shows how a hexagonal shape can be used to provide varying classroom alignments. (For entire plan, see page 103.)

academic but does not make the academic exclusive.

The community college library is more like the high school library should be, but has not yet become. It should be essentially a resource unit, a resource facility which involves all types of information and aids—audio as well as visual, pictures as well as books, records, and anything else that has the possibility of aiding the individual to gain more knowledge of his subject.

Two other points must be kept in mind in considering the community college library. First, the library is not necessarily the center of the school, as it is in a four-year college. As a matter of fact, there is some question as to whether the community college needs a central library at all, or whether it could not do as well with a group of individual libraries devoted to particular subject areas.

Second, you must keep in mind that in the community college, perhaps 50% of the students are academically inclined and good book readers. The other 50% are in need

of education, perhaps badly in need of it, but respond to techniques which are not exclusively books. In fact, they may respond to activity techniques—shop work, lab experiences, the presentation of programs visually and in audio form—which the student of high academic ability does not require. There will be many community college students who cannot think in the abstract. They have to have something that is very direct and forward. So, in terms of the community college library, we must always consider it as a resource center and we must take into account that it should serve the needs of all students in the college, not just those who are academically inclined.

The community college library must also be considered as a learning center. It should provide a great deal of individual work space for students who wish to use it for study. Remember, in most community colleges, students will not live on the campus. Many will have no place to study except in the library. It is essential that space be provided for them.

#### Question five

**Must a community college include shops and other technical and vocational areas?**

■ Absolutely. This is a fundamental and essential part of any community college. Moreover, the shop and technical facilities should

be an integral part of the campus layout. They should not be shunted aside, cast in the role of an adjunct, or relegated to an inferior position.

Remember, we are living in a society where the number of unskilled jobs is decreasing and has been decreasing rapidly. We are now talking about a society that is literally filled with skilled and professional workers. Why shouldn't these people get their training in an institution which offers education beyond the high school level?

This is the institution we call a community college.

If a man wants to be a carpenter, he should be a skilled carpenter. Why shouldn't he learn the trade of a cabinet maker? And, just because he is a carpenter, does this mean that he does not need or should not have learning in other subjects beyond the high school level?

Such a person might learn how to use new machines and devices in his field. He might take a course in business management. And he might simply take a course in literature or a foreign language of interest, even if it didn't have any immediate use or value. Moreover, there is no reason at all why this man, having completed the requirements, should not be able to say that he is a carpenter with a community college degree. Incidentally, in the long run this man will not only be a better carpenter, he will also probably be a better friend of education in general.

#### DEPARTMENTAL LIBRARIES



**Should the library building dominate the community college?** This student architect says "no," suggesting instead departmental libraries on the ground floor of each classroom building. (For his complete plan, see page 107.)

with all the opportunities any cultural center might have."

### Question six

**What kind of athletic facilities should be planned for a community college?**

■ The primary concern of a community college athletic program should be physical education—the development of individuals. There should be opportunities for participation in swimming, tennis, handball, squash, and other sports of this type, rather than intercollegiate or interscholastic basketball or football. You will not have nearly the challenge of athletic competition in the junior college that you have at the high school level.

Remember, the community college attracts a very diversified group of people. We are not dealing simply with 19 and 20 year olds who are competent to get into basketball games. Actually, I think you will find that perhaps half or, in some cases, more than half of all the people going to community college are 25 years or older.

This is not an age for competition in intercollegiate sports.

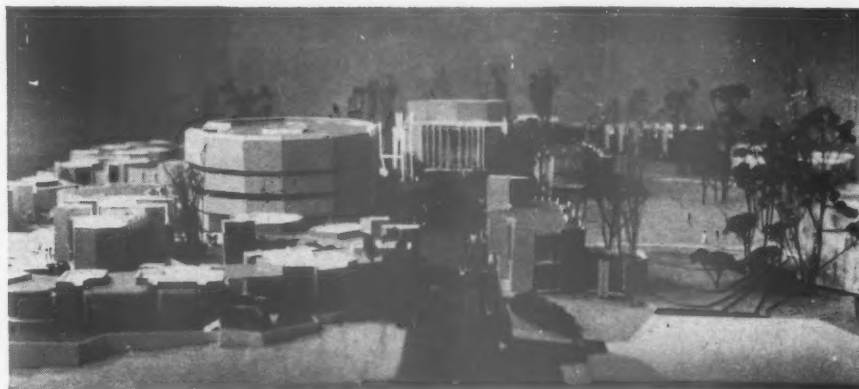
The community college will have to have some facilities for football and basketball and baseball. But these will not be its primary physical education activities. In some cases, community colleges have become the feeding grounds for big time college athletics. This is a trend that should not be encouraged by planning extensive intercollegiate sports facilities and programs.

### Question seven

**What kind of auditorium facilities should a community college have?**

■ The community college should be thought of as the cultural center of the area in which it is located. For this reason, it should have the most complete and professional auditorium facilities possible.

The community college must be



**As a community center**, the college should invite the public to enjoy its facilities. Here is a public promenade among the college's buildings, suggested by a group of student architects. (For their complete plan, see pages 104, 105.)

attractive to people in all walks of life. If a visitor were to come to the town, this should be a place that you would be proud to take him on a Friday or Saturday night to see a professional performance.

In some high schools, the auditorium is considered to be a nice, but extra, facility. As a result, you get cafeteriums or combination gyms and auditoriums. These will not do for the community college. The community college must have full professional auditorium facilities commensurate with the higher level of learning that goes on in these institutions.

### Question eight

**Should a community college have a student activities center, similar to that of a four-year college?**

■ A community college should definitely have a student center. Once again, we must remember that the community college offers a student considerably more freedom than he is offered in a high school. The students must have a place to congregate, to have informal get-togethers. They need a place where they can get a snack to eat, a place which can be considered a rendezvous for the entire student body.

The student center should also have little areas where students can sit down and discuss their problems without going into the library. Ideally, there should be tables where students can work together if they wish to.

It should be an area where a student can raise his voice, where he can get together with three or four other students and really discuss a problem without being told to keep quiet. This can be an important stimulus to independent thinking.

In many respects, the student union should become the center of the community college because it, more than anything else, signifies the way in which the community college differs from the high school. And the student union can bring together all of the college's students—whether they are following academic, technical or vocational pursuits.

### Question nine

**What kind of administrative facilities should be planned for the community college?**

■ The administrative facilities are perhaps among the most important in the community college. There must be room in the administrative headquarters for a great number of



teacher offices. There must also be a large space devoted to guidance facilities.

The importance of contact between instructors and individual students cannot be overemphasized. Remember, in the community college, many students are really deciding for the first time the direction in which their lives will lead. They will have the opportunity there to set the foundation for going on to a full college program, for terminating their education, for turning to vocational pursuits. At no other time in their education can counseling be so important.

### Question ten

***Can we turn to a nearby four-year college as a model for our community?***

■ The answer to that would have to be no. Part of the reason has been discussed already—the difference in the place of the library, for example. Remember, the community college offers a far more diversified program than does the ordinary four-year college. Universities tend to develop their own programs and put their own interpretation on community needs, which is quite right for a private university to do. But the community college has a very specific obligation to make a direct attempt to determine community needs and to see that these needs are met.

Universities, too, still tend to be institutions essentially for those who have the mental ability and interest to pursue a scholarly education only.

The community college must be a much more open place. It must reach out into the world in which it is situated. The community college is not simply an offspring of the four-year college. It's primarily a new institution. No perfect architecture has been evolved for it as yet. This is something that is going to take a great deal of study. But we can say that the community college, as a new institution, must strike out on its own and find the unique type of building and campus that is best suited to the job it is doing.

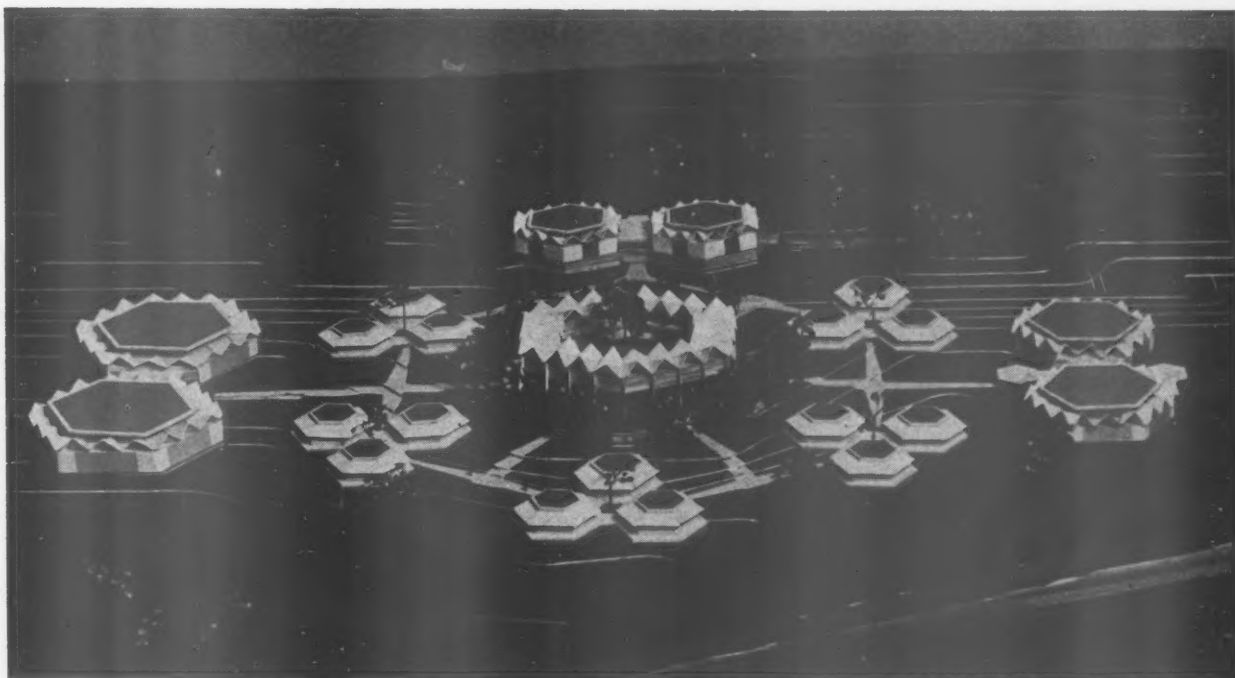
An architectural class  
looks at the problem of

# DESIGNING A COMMUNITY COLLEGE

At the Columbia University school of architecture, senior students, under the direction of Professor Edward Romieniec were assigned as a project the design of a community college.

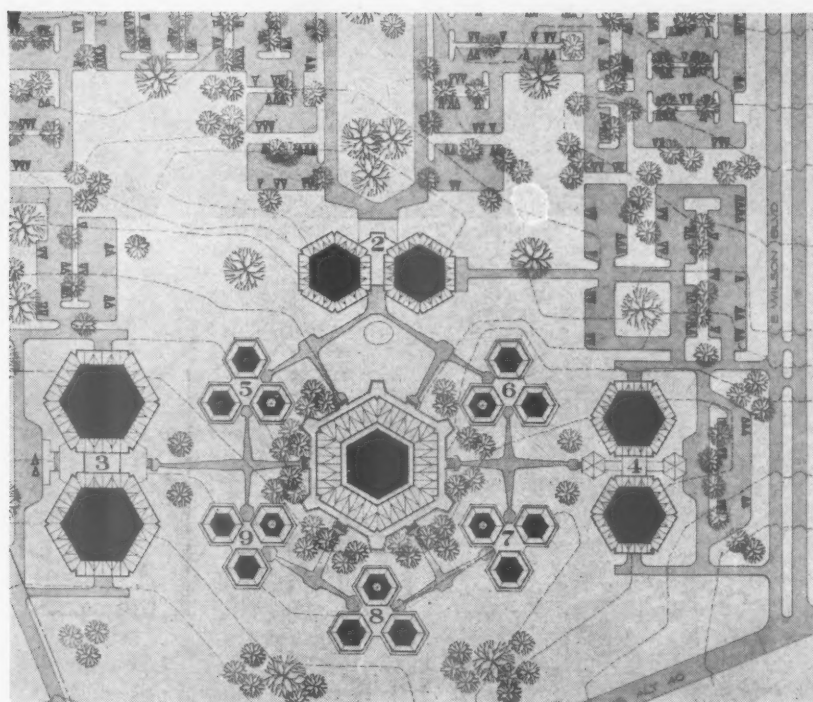
This college was meant specifically for use in Hagerstown, Md. and was to meet specifications written by Dr. N. L. Engelhardt, Jr., with school officials in the Hagerstown district.

The designs on the following pages were chosen as the best from among 19 projects presented. Judges included Dr. Engelhardt, Professor Romieniec, Superintendent William Brish of Hagerstown, Atlee Keppler, Dean of the Hagerstown Community College and John Baynam, architectural associate with Educational Facilities Laboratories.



# THE COMMUNITY COLLEGE: MANY CENTERS OF LEARNING

*Designed by David Evan Glasser, Syracuse, N.Y.,  
Columbia University School of Architecture*



Key. Clustered clockwise about the library and educational research center are: 2 the administration building and student union, 6 the physical science center, 7 the applied science center, 8 the social science center, 9 the language arts center and 5 the natural science center. The gymnasium, swimming pool and industrial arts center 3 are to the left, and the theatre, and television and fine arts center 4 are to the right.

■ The community college is seen as a series of inter-related learning centers, all revolving around the research building (library.) The buildings take their hexagonal form from the fact that each requires a large space with smaller surrounding areas.

The library building is the highest on the campus, becoming both a center of the campus and an orientation point. It is raised off the ground in order to permit construction of an arcade which would serve as a student center, attracting all students—academic and non-academic—to this area.

Buildings meant for public and college use are on the perimeter, allowing easy access without disruption of other campus activities.

Repetitive architectural and structural forms allow for economical and rapid construction; flexible planning for future needs.

## THE COMMUNITY COLLEGE: A COMPREHENSIVE PLAN

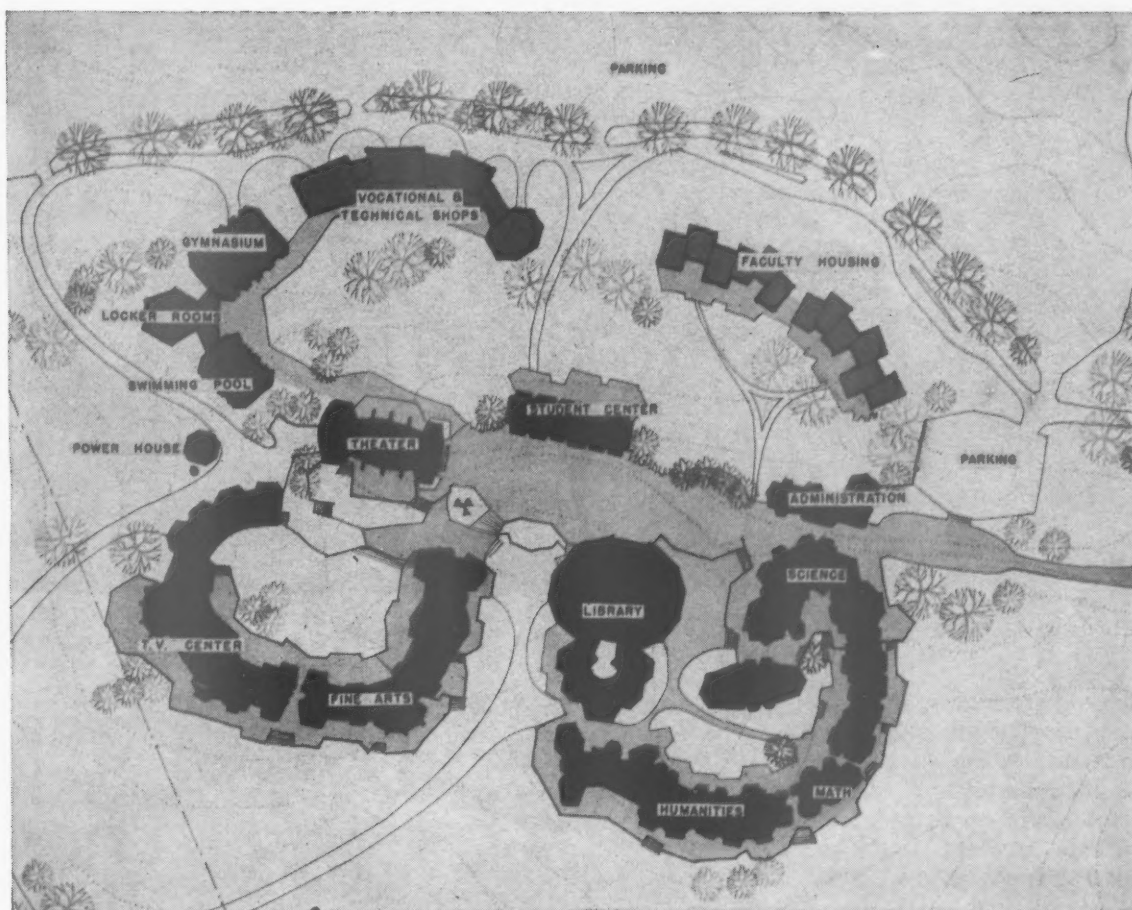
*Designed by Luellen Fields, Greenwich, Conn.; James Leonard Groom, Princeton, N.J.; and Herbert M. Mark, Seattle, all students at Columbia University*



**Science unit** provides specialized spaces. Each facility is designed for the science which will be taught there, emphasizing special needs. (In the mathematics wing, this was carried out by design of continuous chalkboard around room to facilitate writing of long solutions to equations.) Students have locker, lounge and study facilities within the wing.







■ The functions of a college are not alike and the differences should be expressed in the architecture of the building. So, we've designed rooms that are peculiar to the function itself. For example, a mathematics room has taken a rather octagonal shape. We selected this shape because mathematics at this level requires a continuous working surface so that a teacher can develop his equations without interruption.

Faculty housing was not a requirement of this kind of college—which is a public institution and relatively small—but we felt that

having the faculty there would make this more of a 24-hour institution. The faculty houses have been placed in seclusion, over a hill, but their proximity makes it easier for them to take an active part in campus life.

The plan revolves around a central plaza in which cafeteria facilities, exhibition halls, and the student center are located. Entrance to the plaza is commanded by the administration building, giving the college an unobtrusive control over the area. This building is at a high point, with a view of the entire campus.

To accommodate specialized needs, shapes of buildings were allowed to become irregular. Need for unifying force led to design of overall plan tying buildings together. Four-leaf clover pattern emerged. Area in lower right is basically academic, lower left is for the fine arts. Upper left leaf contains vocational and physical education facilities. Students made faculty housing available in leaf at upper right.

## THE COMMUNITY COLLEGE: WALK AND TALK

*Designed by Arthur J. Pettorino, New York City, Columbia University School of Architecture*

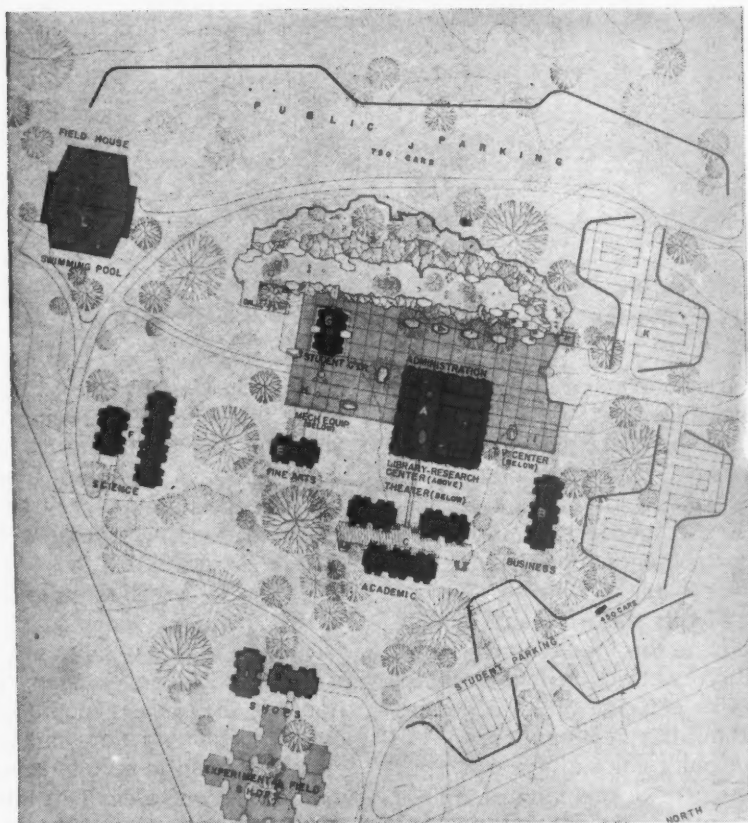
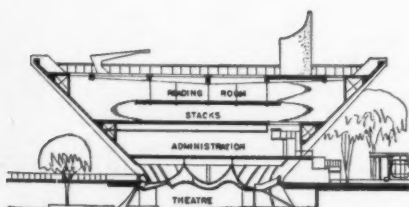


■ The major academic areas are strung out to make people walk from one place to another so that they will pass by—and observe—other aspects of the educational program. The science students should see what is happening in liberal arts and vice versa.

The central building (see below) houses a windowless-library on its top floor, administration facilities at the second level and the theatre down below.

The shops have been set away from the main campus for noise control, better access from service roads and to provide extensive outdoor areas for use by the community as well as the students.

**Upside-down building** has library on top floor, administration in center, theatre downstairs.



**Community access** is an important feature of this plan. By locating theatre facilities in basement of library and administration building, it was hoped to bring public into closer contact with its community college.

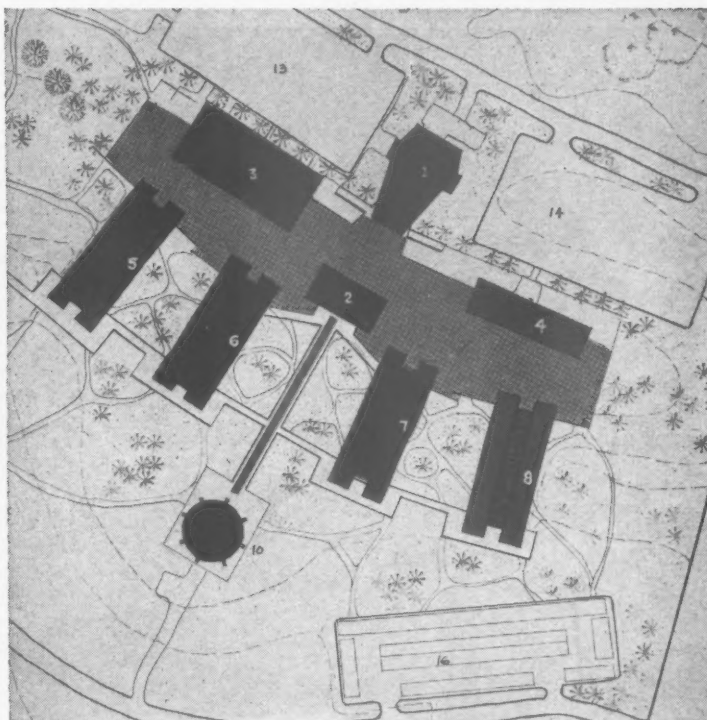
## THE COMMUNITY COLLEGE: DEPARTMENTALIZE THE LIBRARIES

*Designed by Maxwell Feinbloom, New York City, Columbia University School of Architecture*

■ This campus is divided into two areas—formal and informal. The formal area includes those parts of the campus—such as theatre, TV, shops and gymnasium—that would be used by the community on a year-round basis. The informal part includes the academic buildings, used primarily by the students.

There is no central library. Two thoughts are involved here. First is the belief that the library facilities—and these libraries contain, in addition to books, audio-visual tools, teaching machines, study areas, etc.—should be easily accessible to the students. In this plan, each academic building has its own library on the ground floor.

Second, allowance is made for expansion. With a single library building, the college could conceivably outgrow its facilities. With this plan, each time an academic building is constructed, it will have its own library.



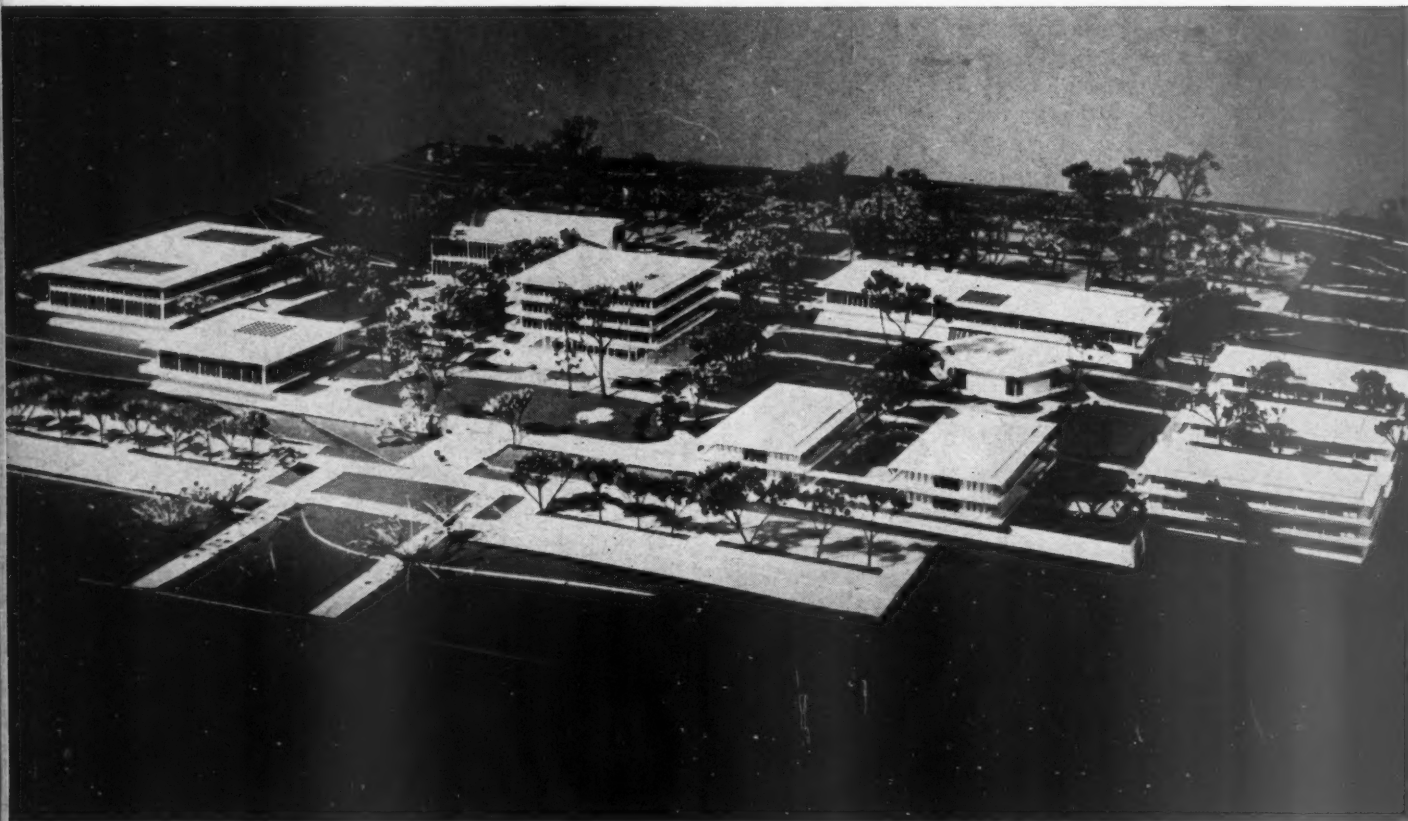
Key. 1 Theatre, 2 administration building, 3 television center, 4 vocational shops, 5, 6 liberal arts buildings, 7, 8 science buildings, 10 student center, 13, 14, 16 parking. Gymnasium and swimming pool not in keyed illustration; located in photo below at lower left.



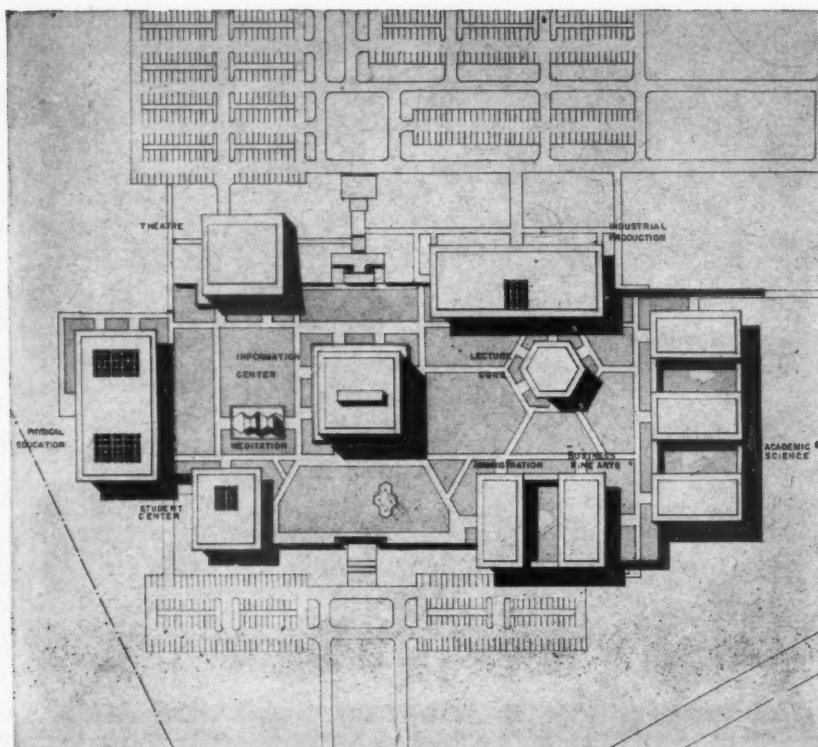


## THE COMMUNITY COLLEGE: ALL FOR ONE AND ONE FOR ALL

*Designed by James Falick, New York City, Columbia University School of Architecture*



**The unified nature** of this campus breaks down any conflict between academic and non-academic students. The library (information center), administration and guidance center, lecture hall and student buildings are equally accessible to all students, and the public, too, is made welcome to facilities it might use, all grouped together.



■ Students in a community college should feel they are all part of the same organization, whether they are taking academic or vocational and technical courses. This plan is designed to facilitate that feeling, by drawing all aspects of the college together around a central area.

There is a television and vocational building, a science building and a liberal arts building, all facing the campus and centered on a joint lecture hall.

The administration building contains student offices and guidance facilities, with testing rooms and carrels where students and teachers can confer together.

Since this is a public college, no chapel could be constructed but a small meditation building has been provided where students can find peace and solitude when needed.

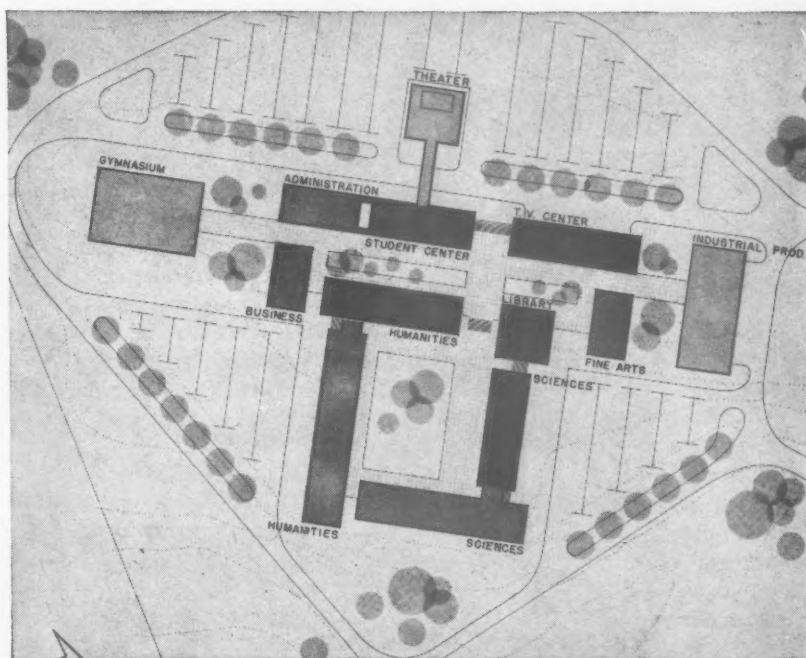
## THE COMMUNITY COLLEGE: INDIVIDUAL LEARNING PREDOMINATES

*Designed by William J. Slack, Teaneck, N.J., Columbia University School of Architecture*

■ These facilities have been designed to put basic emphasis on individual learning. Spaces are flexible, with lecture and exhibition facilities easily accessible to the public. Conference areas and room for individual study predominate.

The campus is divided into two elements. An academic quadrangle includes two science and two liberal arts buildings and the library.

Administrative facilities, student union, business, vocational, television and fine arts schools and the gymnasium are situated along a public promenade. A little theatre is set back behind the student union.



## FOOD CLINIC

*Richard Flambert answers your feeding questions*

**QUESTION:** We're equipping a new school kitchen. What trends in school food service equipment should we follow?

■ Modern food service consultants and designers stress the necessity of planning the menu before planning the kitchen. Where will the food be received, stored, prepared and served? Every menu item should be broken down into its component parts, and the movement of each part and the whole must be traced. Each item of food must be studied in the light of what kind of equipment will be required to prepare it, what equipment to hold it and what equipment to serve it. It is then necessary to follow the movement of each employee in relation to the preparation of each menu item, and then to see that the employee has the tools with which to perform the work with the greatest efficiency.

The trend is to make everything possible wheeled, or cantilevered, for movement and sanitation. Containers are being standardized so that the same container can be used for ranges, ovens, conveyor belts, and serving tables. Equipment is now being furnished with efficient thermostatic controls. Milk dispensers and milkshake machines are taking the place of milk cartons and the hand-dished milkshake. There is a minimum of water carrying from one place to another. Wa-

ter faucets are being installed over every range and kettle. Stocks and stews and soups and pot roasts and vegetables are being prepared in steam jacketed kettles rather than in stewpots on the range. The doorways of walk-in refrigerators are built flush with the kitchen floor so that wheeled vehicles can be rolled in and out. In many installations, reach-in refrigerators and freezers have completely taken the place of walk-ins.

More and more conveyor belts, Telautographs and light signals are coming into being. Garbage disposers are becoming commonplace for waste. Dollies are used for dish handling, and special wetting agents are being used for the rapid drying of dishes. Kitchen employees find it easier to measure rather than weigh, so complete sets of scoops and cups and ladles are being used.

Use of frozen vegetables, instant potatoes, prepared mixes for bakery products, fileted fish, eviscerated fowl, turkey parts, prefabricated meats, have all changed the type of equipment and refrigeration required. For example, there is less need for the potato peeler, for the steamer and for the range, and greater use of an oven, a steam-jacketed kettle and a mixer.

**QUESTION:** In examining school menus over the last several years, we have had a seeming change in the pattern of lunches we serve. Is this just a local occurrence, or are lunch menus changing elsewhere, too?

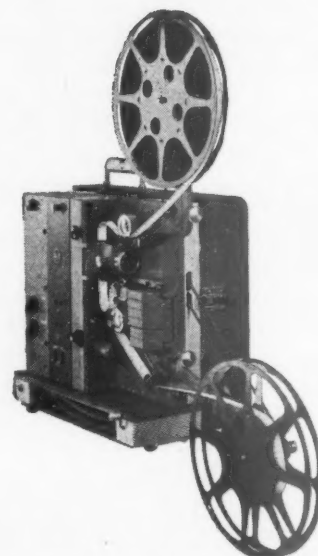
■ Your district is one of many that are changing their menu patterns. More meat, fish, coffee, salads and poultry are being consumed. Consumption is down on vegetables,

potatoes—other than French fried—bread and cake. People are becoming more calorie and vitamin conscious and are carefully watching what they eat.



**About the author.** Richard Flambert is a partner in the firm of Flambert and Flambert, San Francisco, St. Louis, Omaha and Chicago, food service consultants and engineers specializing in schools and institutions. He is president of the International Society of Food Service Consultants.

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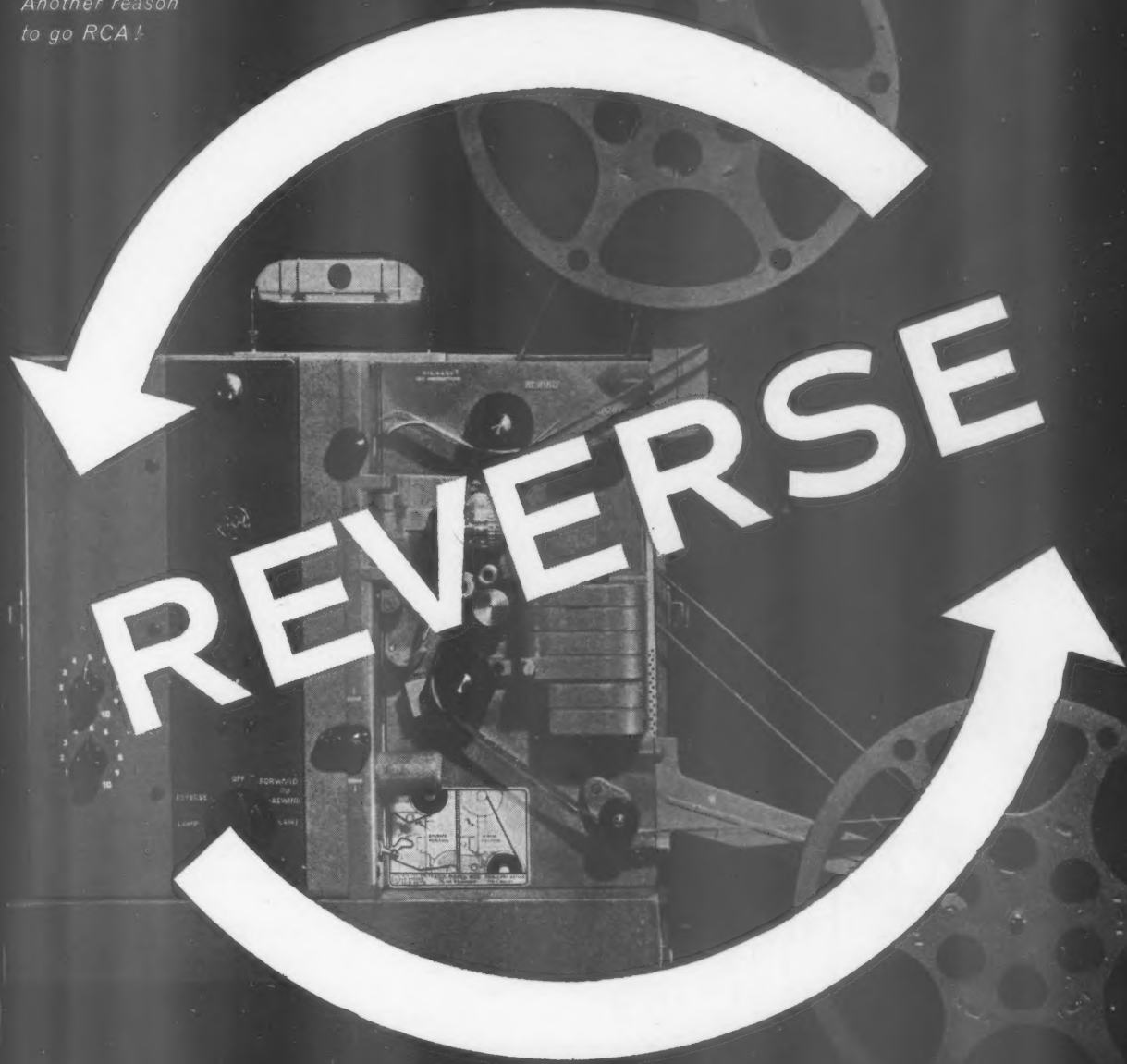
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## Standardized tests

continued from page 64

nesses in teaching certain subject areas are readily revealed.

Our testing program also serves another valuable purpose. It helps our teachers and administrators evaluate a new teaching technique, an experimental program, or a new teaching material.

In the West Hempstead schools we recently began an experimental program in developmental reading (see SM, Feb. '61, page 54). For comparison purposes, we measured

the growth of youngsters before they entered experimental cases as well as after. The months of growth achieved by each child in the experimental group were listed and the median determined. The results of our survey are given in the chart on page 65.

Two of the groups in the program made significantly more growth during the experimental year than they had the year before. Two others made less. Some of the improvement may have been due to new material and equipment that had been put to use in the district

at the time the experimental program was started. In addition, we felt that the sudden strong effort being made on improved reading achievement in West Hempstead may have had an effect on results, too.

## Checking theory

To check our theory, we measured four reading groups that were not participating in the experimental program during the same period. The results here (see chart page 65) were similar to those registered by students in the new reading program. We could see from our study that the experimental program results were no better than those of our regular reading program. But we suspect that new materials, the tests we administered, and the unusual emphasis on reading during the experimental year all through the district, influenced the achievement of both our experimental and regular reading groups. A followup study we are conducting this year will help us determine whether or not to continue the new reading plan in the future.

## Reservations

These are some of the ways we use standardized tests in West Hempstead to help our teachers and administrators evaluate what is going on in their schools. But there are limits to how test results can be used.

Achievement testing is only one tool for measuring school progress. Intelligence testing, while helpful in measuring the general level of ability in a group, may be unreliable in individual cases. Tests help to locate problems but they do not uncover causes. Poor test results are not necessarily due to lazy pupils, poor teachers, poor curriculum or any other single factor. There are usually several elements involved.

That's why proper interpretation is so critical. Test analysis must be a cooperative effort on the part of professionals seeking to find better ways of teaching. Apparent trouble spots in the school program should be examined by teachers, principals and supervisors. Their honest, critical evaluations—based in part upon test results—can point the way to new plans and changed procedures for the betterment of education in the district's schools. **End**

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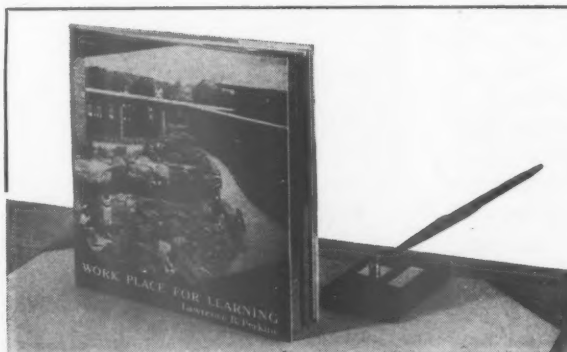
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## Districts work together *continued from page 70*

regional conventions of social studies, science, mathematics or English teachers.

**Q Then the establishment of minimum essentials is one area in which you have cooperated. What are some of the other areas in which the NVPA has worked?**

HURLEY: I think perhaps one of the most important things we have started has been what we call "professional days." This is one day a year when all the elementary and high school teachers in the area meet together here at the high school to discuss curriculum, administration, etc.

SHEEHY: The professional days have been very important to us. Teachers not only get to know one another, they have the opportunity to exchange ideas. Generally we devote the morning or the afternoon to a large group meeting. The other half of the day, we split up into smaller groups, either by grade level or subject.

**Q. You obviously would want your seventh- and eighth-grade teachers to meet with people from the high school, but why bother with kindergarten and the first few grades? Does it really matter to Norwood, what the kindergarten teachers are doing in Haworth?**

HURLEY: When you have a step ladder, you can't start with the eighth step. You've got to go up one step at a time. The eighth grader's achievement depends on what went before.

MACKINNON: In answer to the second part of your question, we care very much in Norwood about what is happening to kindergarten children in Haworth. When our children get into the high school, we want them to have the same opportunities that Haworth children have. And if we find that Haworth is doing something that is making children better prepared for high school, then we want to start right down at the kindergarten level to get our children equally ready.

SHEEHY: This goes right back to our minimum essentials. The committees are not examining just what is taught in the seventh and eighth grades. They're making recommendations for curriculum all the way through the elementary schools.

**Q. You have mentioned professional days and minimum essentials committees, both of which are sponsored by your association; but, after all, these things could have been carried out without the NVPA. Can you point to any activities in which the association works more directly?**

HURLEY: There are many problems that are best dealt with on the administrative level. Take the problem of instituting a foreign language program. We definitely have to lean on each other for advice and some kind of unity in this area, so that if we decide to teach foreign languages in the elementary schools, we will do so on an organized basis.

**Q. Would the use of common report cards be the type of thing your association would take up?**

MACKINNON: We haven't gotten into this particular area, but we have unified the permanent record cards we keep for all students. Each district used to have its own cards. Now we all use the same one.

SHEEHY: All of our schools have the same schedule. Moreover, when it snows or there is some other special situation that might affect the operation of the schools, the eight districts, through the NVPA, make a joint decision.

MACKINNON: We have many common programs. One district is arranging a reading workshop. We've been invited to attend and we will. We have common student council meetings where we bring our student leaders together. We're sponsoring a spelling bee. A common audio-visual center has been operating for many years. We have an athletic program that has been changed considerably by the principals' association. When I came here, we had extensive athletic competition among the elementary schools. But after discussion in the

association, we decided to cut a lot of this out. We decided to confine the activities, for the most part, to intramurals. Then, once a year, we have a joint play day in which students from all the elementary schools participate.

**Q.** So far, all of the cooperation you've been mentioning has been among the seven elementary school districts. How about activities with the high school? Has the NVPA played any role in that area?

**HURLEY:** It certainly has—a very positive one. For example, one of the major objectives of the association is to smooth the path for students entering the high school. To accomplish this, our high school guidance director and her assistant, under the auspices of the NVPA, visit each of the elementary schools and meet with the students and their parents, to help them plan their high school programs before they ever enter high school.

**Q.** How does this program work?

**HURLEY:** Usually in October, our guidance people from the high school and the elementary schools address all the seventh- and eighth-grade students and tell them what they can expect in the high school. They tell them how important their achievement is and what they will, or will not, be able to study in high school. This depends largely on how

well they do during their final two years in the elementary school. Then, the guidance people usually hold meetings with parents of these students, to acquaint them with the high school program. Finally, later in the year, a guidance person from the high school sits down at a meeting with each individual eighth-grade student to help him plan his four years in high school. The elementary school principal, the eighth-grade teacher and at least one of the child's parents, is at each of these meetings. This is a lot of work, both for us and for the elementary school people, but we have been able to make arrangements to carry out this program through the principals' association and we think it's worth every bit of the time we spend on it.

**SHEEHY:** Another part of the program is an orientation day the high school arranges just prior to the opening of school each year. All of the entering ninth-grade students attend school that day. They are picked up on regular bus runs, go to their homerooms, meet the teachers, then are conducted through the school and become familiar with it, so that the next day, when all the other students are there, the ninth graders already know their way around.

**MACKINNON:** I think we should mention, too, that often high school teachers will come into the elementary schools, either to address teachers on some special phase of teaching in which they're interested, or to talk to students.

**SHEEHY:** Before we pass on from this, I'd like to mention one other area of cooperation arranged by the association. That is in the transportation of handicapped and vocational students to special schools outside our districts. Instead of having each district transport these students separately, we've arranged for one bus to service all the districts. This has resulted in quite a saving for our taxpayers.

Another important group was formed a couple of years ago, made up of board members from each district. These people have been working on problems we ourselves could not solve.

**Q.** Your whole association seems to be based on cooperation and friendship between the leaders of



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- ▲ Adaptable to unusual installations; easy to install, say contractors.
- ▲ Write for the experience of one School Administrator who decided to use this system.

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**"Our association is useful because it gives us a chance to compare experiences and discuss mutual problems."**

**SHEEHY**





Read this timely report  
on major  
educational experiments—

## SCHOOLS OF TOMORROW— TODAY!

by Arthur D. Morse  
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"As Commissioner Allen [of New York State] says in his foreword, this volume presents a vivid picture of the kind of experimentation which promises to lift the level of education in this nation. Although the final verdict is not yet in as to the success of many of these experiments, interested citizens and school administrators will find this volume well worth reading."—JAMES B. CONANT

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MEMO

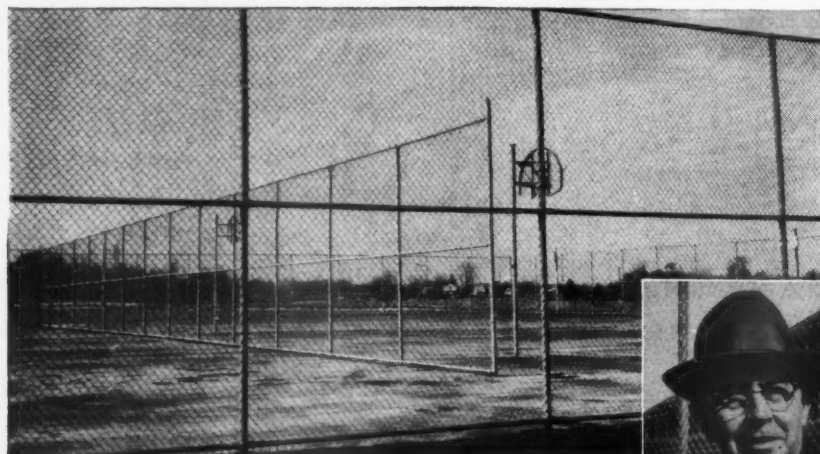
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first in all three—  
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Steel Grandstands... established 1895.

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## "Past performance predisposed us to Anchor..."

C. M. Gockley, Supt. Whitehall Township School District, Hokendauqua, Penna.

"About 25 years ago we installed Anchor Fence around the ball field at our old high school. When we built our new high school we were confronted with much the same problems of controlling admission to the athletic fields and preventing the children from running off the field into the street. Naturally, past performance predisposed us to Anchor Fence. Of course we advertised for bids. Anchor was finally picked because of its quality, lower cost, and minimal need for maintenance. As we expected, everyone concerned is very pleased with the Anchor chain link fence."

Call your local Anchor office today for a talk with one of Anchor's trained sales engineers. Write for free catalogue to: ANCHOR FENCE, 6551 Eastern Ave., Baltimore 24, Md.



Plants in Baltimore, Md.; Houston, Texas; and Whittier, Cal. • Sold direct from factory branches in principal cities.  
(Circle number 703 for more information)

these seven elementary districts and the regional high school. But you people have no effect on the naming of a new administrative principal in any of the districts. Suppose a man came in who wouldn't, or couldn't, cooperate with your group?

MACKINNON: This would undoubtedly weaken the work of our group, but I think it would hurt the principal, and his district, far more than it would hurt the rest of us. We argue, pretty violently sometimes, but when we come to decisions we are able to move ahead. This association doesn't demand that all its members agree. It simply demands that all its members be willing to work out their mutual problems. We have dissenters from some of our decisions and frankly, I think this is good.

**Q** Your organization seems pretty well set now after seven years of working together. Where do you plan to go from here?

MACKINNON: Right now we are in the process of opening a permanent office in a vacant room in my school and hiring a full-time coordinator to help us. Each one of us is a little reluctant to tell the other fellow what he should be doing. This coordinator won't tell anybody how to run his district, but he will be able to make suggestions on an impersonal basis.

**Q.** Would this man become sort of an overall supervisor of your districts?

MACKINNON: No, he would become an adviser to the principals' association. I would liken it to my position with my school board. I am their executive administrator. I have no vote but I do not have to take dictates from any one member. I conceive of this coordinator having the same relationship to the members of our association.

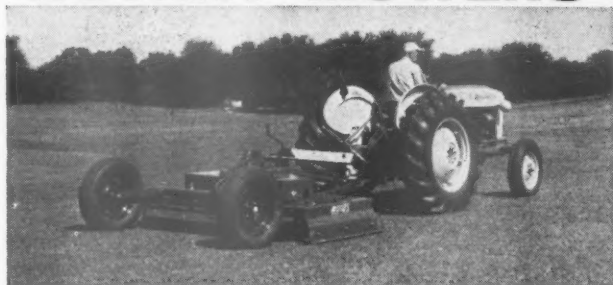
**Q.** How much will it cost to hire a person to do the job that you have outlined?

SHEEHY: We think we must pay a man of the caliber we want, on the same scale as the administrative principals in this area. In addition,



# WOOD'S

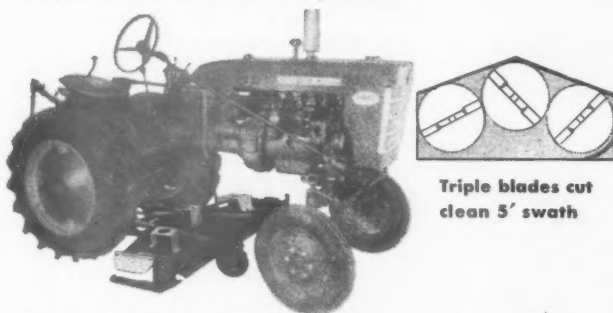
## Hi Speed ROTARY MOWERS



Wood's Model 80 — Cut 6 $\frac{3}{4}$ ' swath

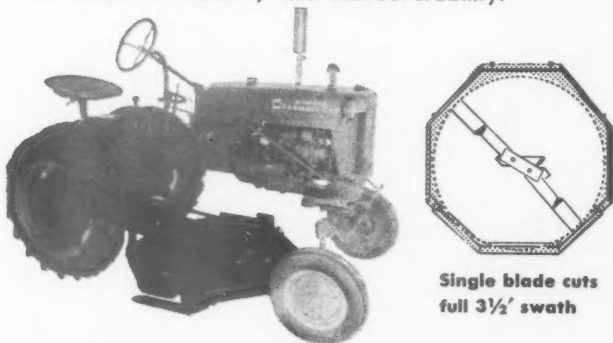
### built to do the job!

Wood's Rotaries offer a choice of swath widths from 3 $\frac{1}{2}$ ' up to a giant 9 $\frac{1}{2}$ ' that cover 6 acres per hour. Not only is the job fast, it's smooth and even. The savings in reduced grounds maintenance cost soon pays for the machine many times.



Triple blades cut clean 5' swath

**Wood's Model 59 Lawn Special.** Exclusive floating mount follows the contour of the lawn. Undermounted for excellent visibility and maneuverability.



Single blade cuts full 3 $\frac{1}{2}$ ' swath

**Wood's Model 42** easily attaches to tractor with important built-in operator protection. Makes quick work of mowing, mulching and light brush cutting.

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SPECIALISTS IN THE MANUFACTURING OF  
TRACTOR POWERED ROTARY MOWER SHREDDERS

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APRIL 1961

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Without obligation, please send details on Simoniz:

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(Circle number 757 for more information)

# WASH — EXTRACT — DRY

## 30 MINUTES PER LOAD WITH SPEED QUEEN

### SCHOOL LAUNDERING EQUIPMENT . . .



UNIFORMS

TOWELS

PHY-ED  
EQUIPMENT

A streamlined combination to save time, to save inventory, and to prolong the life of your basic linen supply.

Speed Queen manufactures a complete line of laundry equipment, and has since 1923. From it, you can order:

**WASHERS:** A choice of lifetime stainless steel or baked enamel finish in cabinet or conventional design. Manual, semi-automatic or fully automatic models in a wide range of capacities.

**DRYING TUMBLERS:** Drying becomes a precise, automatic operation in fine Speed Queen Equipment proven by years of satisfactory service. Capacities of from 16 to 100 lbs.

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NOTE: 25 LB. WASHER-EXTRACTOR ALSO AVAILABLE IN SPEED QUEEN'S COMPLETE LINE OF LAUNDRY EQUIPMENT.

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Commercial Dept. EE

**SPEED QUEEN**

A Division of McGraw-Edison  
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McGraw-Edison

**SPEED QUEEN.**

(Circle number 758 for more information)

## YOUR BEST BUY IN SEATING COMFORT *Is This Top-Selling* **DURHAM 875**



No wonder the DURHAM No. 875 is the choice of school seating buyers everywhere! It gives you a modern, tubular-frame, all-metal folding chair with the ease and sit-ability of a lounge chair. It's handsome in appearance. Versatile in performance. Easy to set up and fold. Extra strong—built for years of satisfying service. And it's budget-priced!

DURHAM quality includes non-tipping seat—larger, extra wide, extra deep. Rear brace joints are silver-alloy brazed for rugged service—a DURHAM exclusive. A special baked-enamel process provides a lustrous finish with exceptional wear resistance.



Before you buy any seating, get the story on this and other outstanding chair values offered by DURHAM.



**Durham**  
THE FINEST METAL FURNITURE

DURHAM MANUFACTURING CORPORATION • MUNCIE, INDIANA

(Circle number 717 for more information)

he'll need a budget for some clerical help, for traveling and for supplies. Our estimate is that we will need about \$14,000 a year to do a proper job. This amount will be subsidized the first two years by grants from the New Jersey State Department of Education. After that time, we hope the idea will have caught on to such an extent that our eight school boards will be willing to support the project.

**Q** You have eight separate districts represented here, seven elementary and one high school. You have found that you need a coordinator on a full-time basis. Why not simply consolidate yourselves into a single unified district?

MACKINNON: We thought of this, but it becomes an almost insurmountable problem. It involves getting the electorate to agree. People in each town must be willing to give up at least a little bit of their identity.

HURLEY: I think you must recognize, too, that we are doing many things that we could not do in a situation where there was only one superintendent and one school board. We lend strength to one another. When you have all the principals picked by the same superintendent and board, you get a pattern. All of the people tend to act in the same way. Under the present setup, we get much more individual action.

MACKINNON: From a narrower point of view, I know that if I were a principal serving under Mr. Hurley, I would feel less free to express my opinions. Here we get a divergence of opinions and none of us feels stifled by an overall leader.

SHEEHY: I feel there is no need for a unified district. We are functioning very well under the system we have. None of our districts is really small. The smallest has almost 400 students in kindergarten through the eighth grade. I think, too, that with eight boards of education instead of one, you get much greater citizen interest in your schools.

**End**



# THIS ROBS TEACHERS

and students of  
precious working time!

Even heavy-handed students don't break  
GENERAL PENCIL points.

The secret is GENERAL's exclusive  
"Carbo-weld". It makes points stronger, longer-  
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Economical! Saves lots of class time, too.

Since 1889, GENERAL PENCIL COMPANY  
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values (like costly Ceylon graphite points  
that stay sharp, write smoother longer!)

## MAY WE FILL YOUR PENCIL REQUIREMENTS?

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For art classes—complete line of drawing  
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**GENERAL PENCIL CO.**  
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(Circle number 720 for more information)

## Planning a coat and hat rack installation?



See our catalog  
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Send for brochure on this  
low-cost, economical line, used in  
leading institutions throughout the country.

**A. R. NELSON CO., INC.**  
38-35 CRESCENT ST., LONG ISLAND CITY 1, N. Y.

(Circle number 742 for more information)

10,000 SCHOOLS USE

# TRANSVISION

Low Cost—TV MOBILE  
SCHOOL STANDS

(For any make TV Set)

Because they are: (1) **Safety-designed** with wide base anti-tipping construction (36" x 25"). **Safety belt** secures set to stand. **Non-conductive shockproof** top shelf . . . (2) **Easy rolling**—large 4" or 5" industrial rubber casters (brakes on 2 wheels) . . . (3) Equipped with **adjustable** tilting device to tilt TV screen for reducing reflections . . . (4) **Ruggedly** constructed of 1" 16-gauge steel tubing with reinforced base . . . (5) Attractively styled chromium plated, light and graceful in appearance . . . (6) Available in 40" or 48" heights.

**FREE: 30-DAY TRIAL. NO EXPENSE TO SCHOOL. SEND IN COUPON BELOW**

NEW  
INVENTION  
ELIMINATES  
NEED FOR  
RABBIT EARS

Teacher need  
only turn  
knob on stand  
for best  
reception.  
Stand  
functions  
as a high  
gain indoor  
antenna  
(optional)



Model S-2000

Model S-3000—Use only if set is to be  
bolted to stand. Tilting device and  
safety belt not included, Price \$29.00

. . . Model S-4000—Includes safety belt  
and adjustable tilt device, Price \$34.95

. . . Model S-2000—Plastic insulated  
safety ledge, adjustable tilt device,  
Price \$39.00; Safety belt optional,  
\$3.95.

Optional Features—New Invention  
shown above replaces "Rabbit Ear"  
Antenna which schools find so undesirable. Teacher need only turn knob  
on set (see photo above) for best reception. Stand itself functions as a high  
gain indoor antenna, Price \$10.00 . . .  
With 4-5" Casters in place of 4-4"  
Casters, \$3.00.



Model S-4000

TRANSVISION, New Rochelle, N. Y.

TRANSVISION, New Rochelle, N. Y. I would like your free 30-day  
trial. If satisfactory, will purchase stand. If not, I may return without  
obligation or expense.

Send Model No. . . . . 40" high . . . . . 48" high . . . . .  
with Optional features . . . . .

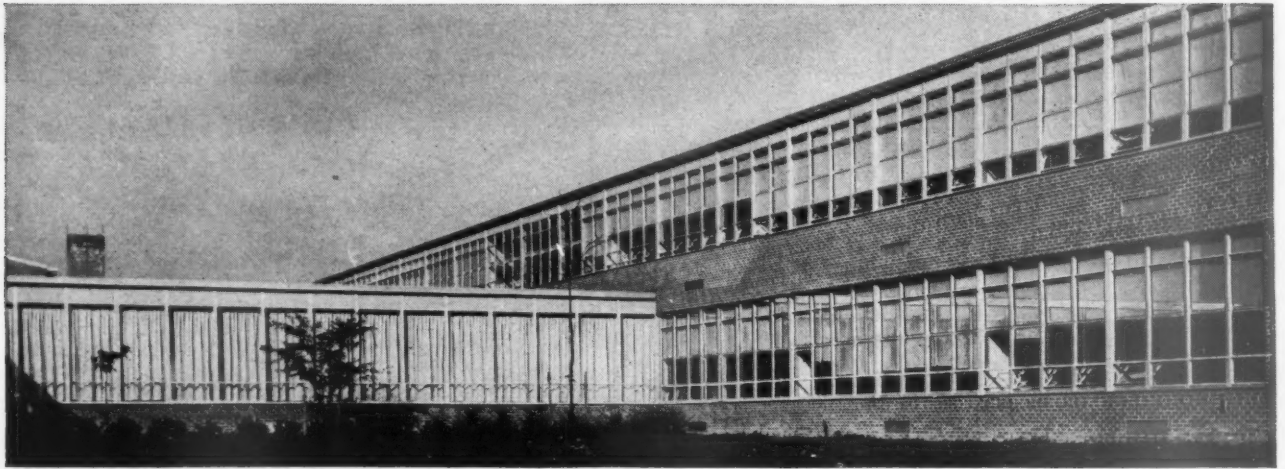
I understand that school agrees to buy this only if it is satisfactory  
after 30-day trial.

School . . . . . Address . . . . .  
City . . . . . Zone . . . . . State . . . . . By . . . . .

(Circle number 762 for more information)

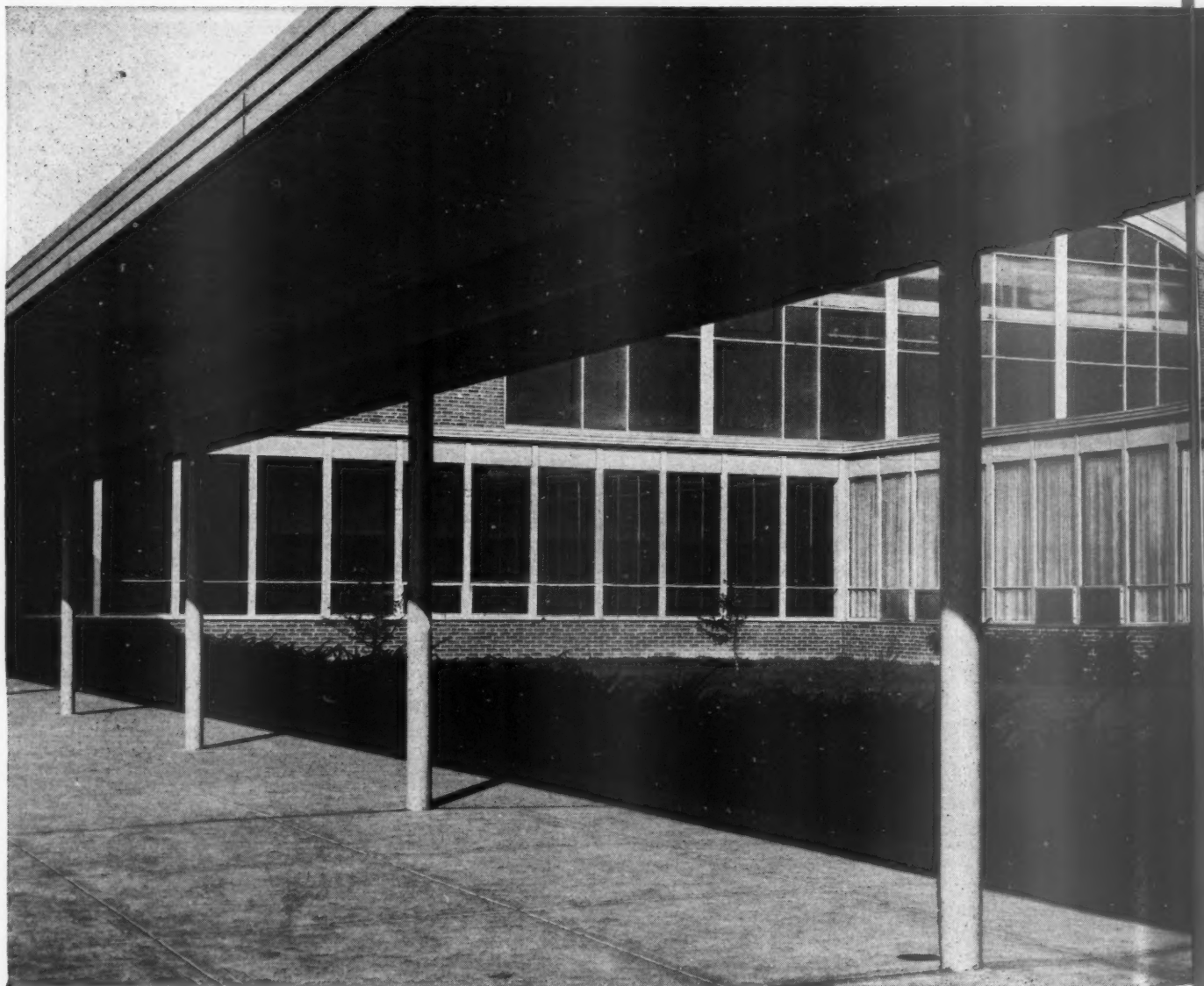


Polished Plate and PENNVERNON Window Glass by PPG assure plenty of light for Hartford Heights pupils.

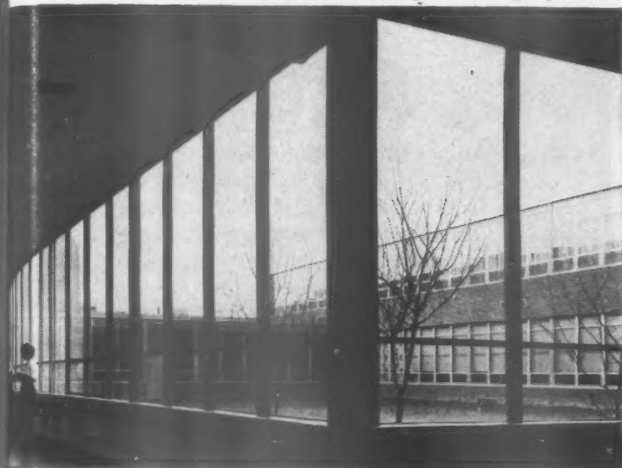


## More natural light for learning...

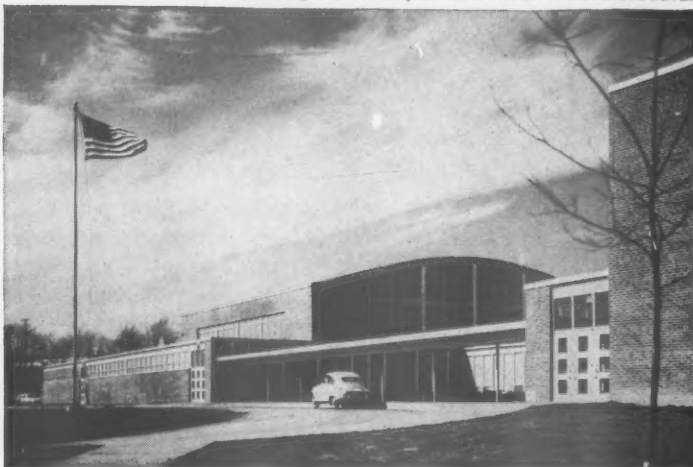
Hartford Heights Elementary School, North Huntingdon Township, Westmoreland County, Pa.  
Architect: Hunter, Campbell & Rea, Altoona, Pa. Contractor: Westmoreland Construction Co., Greensburg, Pa.



A liberal use of glass in connecting corridors makes moving from building to building a pleasure.



Over-all view of the Hartford Heights Elementary School showing how PPG products make it more beautiful.



## g... with Glass from PPG

Here at the Hartford Heights Elementary School in North Huntingdon Township, Pa., a liberal use of glass from PPG creates an atmosphere of lightness, brightness and beauty. In the education of hundreds of North Huntingdon children, PPG products play an important role. Because of PPG glass products, the entire school, from classrooms to corridors, is bright and well-lighted—with plenty of *natural* light that is so important in the learning environment. Classrooms are bright and cheerful, and the danger of eyestrain is reduced. Corridors, too, are well-lighted and airy, thanks to plenty of glass. Moving from building to building, it almost seems like the attractive courtyard is *inside* the building. Because of a liberal use of PPG glass products, it's a pleasure for the youngsters to attend the Hartford Heights Elementary School.

For more information on any of these PPG products, write Pittsburgh Plate Glass Company, Room 1147, 632 Fort Duquesne Boulevard, Pittsburgh 22, Pennsylvania.

### PPG glass products for schools:

- SOLEX® Plate Glass—green tint, heat-absorbing, glare-reducing glass
- SOLARGRAY® Plate Glass—a neutral gray, heat-absorbing, glare-reducing glass
- PENNVERNON® GRAYLITE™—a neutral gray, heat-absorbing, glare-reducing heavy sheet glass
- HERCULITE®—shock-resisting tempered plate glass
- TWINDOW®—the world's finest insulating glass
- Polished Plate Glass—for clear, true vision
- PENNVERNON® Window Glass—window glass at its best
- SPANDRELITE®—heat strengthened glass panels with color fused on the back



## Pittsburgh Plate Glass Company

Paints • Glass • Chemicals • Fiber Glass

In Canada: Canadian Pittsburgh Industries Limited

Lots of glass here—functional, beautiful, modern.

(Circle number 776 for more information)

## Yours for the asking

*continued from page 27*

schematic diagrams are included in the material. Two models are described.

For a free copy of the brochure, circle number 852 on the Reader Service Card.

**Rolling doors and partitions.** Steel and aluminum doors and partitions, many of which roll or coil up on tracks, are described in a 20-page color catalog distributed by the Cookson Co. The book has charts which show how to se-

lect the doors, optional power units and other equipment you need. Fire doors, grills and counter doors are also discussed.

For a free copy of this catalog, circle number 875 on the Reader Service Card.

**Tilelike finisher.** A four-page brochure published by Plastic Kolor, Inc., discusses properties, uses and applications of a spray-on finishing material. The material may also be applied with a brush or roller, and dries to a durable tilelike surface on masonry, con-

crete, wood, metal, plaster and wallboards.

For a free copy of this brochure, circle number 814 on the Reader Service Card.

**Incinerators.** Published by Joseph Goder, Inc., this manual contains comprehensive data on incinerators, including specifications, suggestions for selection, and typical layouts. There are also charts and drawings of different incinerator models, plus an explanation of industry terms.

For a free copy of this handbook, circle number 820 on the Reader Service Card.

**Tile color charts.** Two color charts, covering vinyl tile and asbestos tile, give the latest information on patterns and colors available from each of the nine major manufacturers in this country.

For free copies of these charts, circle number 841 on the Reader Service Card.

**Griddle catalog.** The Bastian-Blessing Co. is distributing a six-page catalog which covers its line of griddle stands and hooded units. Nine standard models are described, and several optional features are mentioned.

For a free copy of this catalog, circle number 816 on the Reader Service Card.

**Lighting guide.** Recessed lighting troffers are described in a 36-page catalog published by the Smoot-Holman Co. In addition, detailed mounting information and controlling panels for various fixtures are presented.

For a free copy of this guide, circle number 830 on the Reader Service Card.

**Algebra film catalog.** Twenty films, designed to help teachers of high school algebra present the subject to students, are described in a catalog available from Modern Learning Aids. The films are intended to supplement textbook instruction. All are 16mm sound, about 30 minutes in length.

For a free copy of this film catalog, circle number 843 on the Reader Service Card.

**Non-corrosive drains.** The Corning Glass Works is distributing a catalog which describes a series of corrosion-resistant drain pipes, suitable for the disposal of chemical waters. There are full details on fittings.

For a free copy of this catalog, circle number 838 on the Reader Service Card.

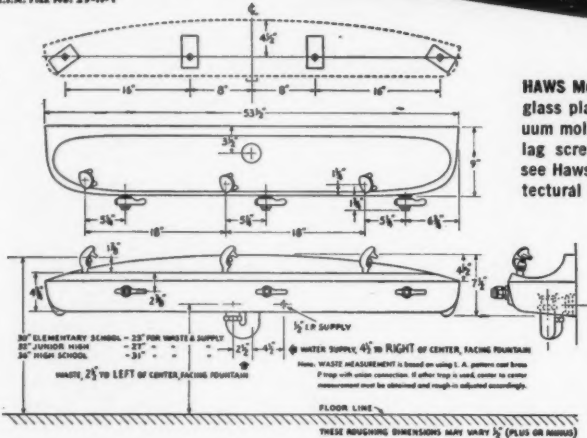
## MOLDED IN FIBERGLASS

in choice of **COLORS**

**HAWS**



A.I.A. FILE No. 29-H-1



*In fiberglass, in color...* and a design as fresh as the latest architectural trends! HAWS Model 10Y brings welcome beauty and color appeal to school and institutional environments. It's vacuum molded in tough, lightweight, acid resisting fiberglass—with smooth lines and 100% concealed trim. HAWS vandal proof, shielded bubblers are anti-squirt, with HAWS Flow Controls. Choose from five decorator colors and white at no extra cost! Write for the complete specs on Model 10Y (and also Model 10X, the same fine design in enameled iron).

See HAWS Catalog in Sweets Architectural File for data on the entire Haws line.

**HAWS**

DRINKING FAUCET COMPANY

1441 FOURTH STREET • BERKELEY 10, CALIFORNIA

(Circle number 723 for more information)



*News from the business firms serving your schools*

### Laminated maps

World maps and maps of the United States, permanently encased in clear plastic, are being offered by the Kenmore Sales Co. The maps are being marketed with walnut frames and gold trim, ready for hanging. The stain resistant surface can be marked with crayon and cleaned with a cloth.

The maps are available in a variety of sizes.

For more information, circle number 809 on the Reader Service Card.

■ ■ ■

### Versatile tractor

This versatile tractor, manufactured by Wheel Horse Products, Inc., mows lawns, clears snow, rakes, spreads and hauls, using a variety of optional attachments.

The tractor cuts a five-foot swath with its wheetype mower, and can



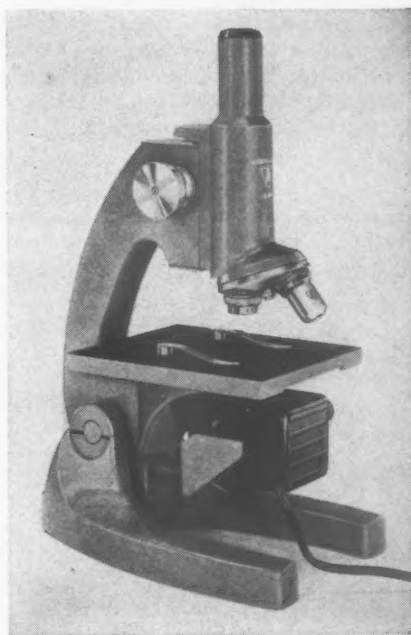
haul an all-steel dump trailer with a nine cubic foot capacity. The tractors are said to be highly maneuverable. Other features include electric starting and a combination clutch and brake pedal. They are available in models from four to seven horsepower.

For more information, circle number 810 on the Reader Service Card.

■ ■ ■

### Inexpensive microscope

Bausch & Lomb, Inc., has announced an inexpensive microscope designed for the pre-high school student. The instrument has rugged con-



struction and 40- and 80-power magnifications.

Featuring simplified operation, the microscope also has a large stage, color-coded objectives, and an inclination joint for adjustment of viewing angle.

For more information, circle number 872 on the Reader Service Card.

■ ■ ■

### Bulletin board cork

An economy priced bulletin board cork consisting of a composition wear layer and vinyl impregnated felt backing is available in gray, green, or tan from Congoleum-Nairn, Inc. The inexpensive cork, in 49-inch widths, is said to be ideal for application to compressible backing boards or wornout boards.

For more information, circle number 842 on the Reader Service Card.

■ ■ ■

### Glaze for table tops

A ceramiclike mineral glazed surfacing, resistant to chemicals and stains, has been announced by Johns-Manville. It is intended for service where continuous exposure to strong acids, solvents, and chemicals are encountered.

The material also offers excellent



## WAYNE FOLDING STAGES

work wonders in platforming all over the school



Opens and closes with ease—one freshman does it easily!

Positive locking—locks in position with the press of your foot!

Smooth to move—easy rolling hard rubber casters help you open, close and move it away with ease!



This handsome, sturdy movable stage will serve you well all over the school. In a classroom, on the main-stage, in the gym, on the field, in the cafeteria—wherever you need a platform—it's there—quickly—easily.

Available in any combination of width, depth or height.

Send for new catalog today.

**WAYNE IRON WORKS • WAYNE, PA.**  
(Circle number 765 for more information)

resistance to thermal shock, abrasion, and scratching.

For more information, circle number 806 on the Reader Service Card.

■ ■ ■

### Small job duplicator

A hand-operated duplicator used for small quantity printing is being marketed by Identification Systems Co. The printer is said to be effective on all types of papers from onion skin to heavy card stock.

The duplicator employs silk screen printing with an electronic picture

stencil. Typewritten stencils can also be used. Ink is said to dry instantly on paper, but not on the roller or screen. Color of ink can be changed by a blotting process.

For more information, circle number 869 on the Reader Service Card.

■ ■ ■

### Compact typewriter

A compact portable typewriter, being introduced by Remington Div. of the Sperry Rand Corp., weighs only 15½ pounds and has many features of the regular upright models.



The typewriter has a touch regulator, carriage centering device, removable top cover, erasure table, etc. The machine comes with a zippered carrying case and is available with pica or elite type faces.

For more information, circle number 808 on the Reader Service Card.

■ ■ ■

### Teaching desk

A teaching desk, which utilizes motion picture film to instruct individual students, has been developed by the Williams Research Corp. The desk is similar to other teaching machines in that it requires a pushbutton response from the student, but the entire program is presented on film.

When the student has completed his course, he removes the reel of film and exchanges it for another. The device keeps a record of progress.

For more information, circle number 828 on the Reader Service Card.

■ ■ ■

### File card trucks

Data processing accounting cards can be easily transported on these mobile trucks manufactured by Tab Products Co.

There are two models. One is for conventional, and the other is for vertical, trays. The conventional model has retaining edges on its shelves to secure trays; the other model has tilt-



## TRANSVISION TV CLASSROOM RECEIVERS

*Designed Specifically for Schools*

NOW AVAILABLE WITH

## 27" GIANT TV SCREEN

For CLOSED CIRCUIT and  
OPEN CIRCUIT ETV

*with*

Special School Audio System

**FREE 30-DAY TRIAL**

**PRICES—F.O.B. FACTORY:**

21" Set.....\$189.

24" Set..... 219.

27" Set..... 299.

*\*Also available as video monitors.*

### SCHOOL FEATURES:

Tamperproof—Completely Locked Front and Rear... Larger Viewing Area... Special Audio Systems for Schools... Tilted Screen to Reduce Reflections... Special Safety Features Needed by Schools... Hand Wired, Ruggedized Chassis.

#### Other Optional Features at Additional Cost:

- Mobile, Heavy-Duty Wide Base School Stand .....\$29
- 10-Watt Push-Pull Audio Amplifier (for 21" or 24" TV Sets) ..... 20
- 10-Watt Push-and-Pull Audio-3 Speaker Panophonic Sound (for 27" TV Set) ..... 30
- Adjustable Glare Shield ..... 10
- Four Large Carrying Handles ..... 4

- Laminated Shatterproof TV Safety Glass ... 5
- UHF Strip for One Channel ..... 10
- UHF All Channel Tuner ..... 25
- Video & RF Reception (Dual Reception) .... 60

Also—6 Models of Mobile TV School Stands for any receiver (available with tilting device and safety belt) \$29. to \$39.

TRANSVISION, New Rochelle, N. Y. • NE 6-6000

TRANSVISION, New Rochelle, N. Y.

I would like your free 30-day trial. If satisfactory, will purchase set. If not, I may return without obligation or expense.

☐ Send:.....27";.....24";.....21" with (add optionals).....

☐ Send complete information

School .....Address.....

City .....Zone.....State.....By.....

(Circle number 761 for more information)

ing shelves which accommodate seven trays on each side.

Both models are available with four swivel casters, or two casters and two fixed legs.

For more information, circle number 826 on the Reader Service Card.



### Language lab headset

One-piece construction and greater sensitivity are features of a headset developed by Telex, Inc., for language teaching and general communications.

The headset has foam rubber muffs,



with secondary ear seals. It weighs 12 ounces and is adjustable. Special designs for custom installations are available.

It can be sterilized to meet multiple use requirements.

For more information, circle number 802 on the Reader Service Card.



### Window scaffolding

Weighing only nine pounds, a window scaffold, manufactured by the Newark Ladder & Bracket Co., is said to have more than 500 pounds capacity. The scaffold is designed to hook over any standard windowsill.

Construction features include an 11 inch x 12 inch working platform, a built-in guard rail for safety, and rubber bumpers at all contact points to prevent marring of wall surfaces.

For more information, circle number 805 on the Reader Service Card.



### Piano wall charts

Two large wall charts describing piano construction and evolution are being published by the Baldwin Piano Co.

The construction chart shows an exploded view of all major parts in relation to each other. The evolution chart features illustrations of the major instruments which preceded the original pianos, including the dulcimer,

clavichord, virginal, spinet and harpsichord.

For more information, circle number 827 on the Reader Service Card.



### Conveyer dishwasher

Built of heavy gauge stainless steel, an 18-foot flight-type dishwasher, featuring a six-foot center section for washing and rinsing operations, has been introduced by the Hobart Manufacturing Co.

The machine also has a six-foot loading and scraping section and a

six-foot drying and unloading extension. A conveyer of stainless steel links moves at an adjustable five to seven feet per minute. The machine is said to service 1,350 persons per meal.

For more information, circle number 807 on the Reader Service Card.



### Portable PA system

Complete with batteries and transistor amplifier, a public address system manufactured by Allied Radio Corp. is housed in a single portable carrying case. The system requires no wires,

Controlled with the utmost simplicity, the proper authorities have instant access to any locker with a complete installation of Dudley Combination Locks like these.

Listed in the Master Chart by number, the correct combination is at your fingertips. No unauthorized person need have access to this Master Chart, yet regardless of any

switching of locks the correct combination is quickly available, identified by the number stamped on every Dudley lock.

The simple control provided for a Dudley Locker Lock installation is only one of the many reasons why Dudleys have been favorites among school people everywhere for more than forty years.



#### RP-5

Combination Padlock with Revolving Knob Pointer

Solid brass case with white numbers on black enamel.



#### RD-2

Rotating Dial Combination Padlock

Solid stainless steel case with white numbers on black enamel. Revolving dial.

## DUDLEY LOCK CORPORATION

1436 Old Dixie Highway, Vero Beach, Fla.

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line cords or speaker cables and is designed for quick setup.

The carrying case has an eight-inch speaker, microphone and flexible microphone holder.

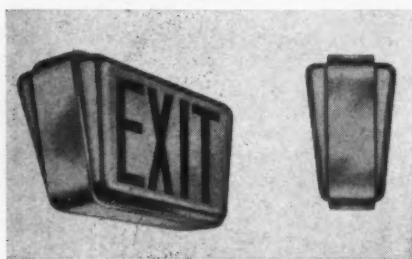
The carrying case is placed on end on a table with the PA speaker facing the audience. The microphone is plugged into the rear of the case, and the case itself may be used as a stand on which to rest notes and papers. The entire unit is set up in front of the person speaking.

For more information, circle number 873 on the Reader Service Card.



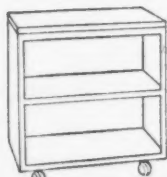
### Exit lights

Incandescent or fluorescent lamps, or a new light source known as electroluminescent, can be installed in these exit lamps manufactured by the Edwin F. Guth Co. With electrolumi-

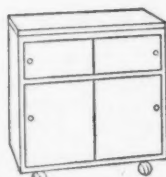


Shown below are several models of HONOR Classroom storage cabinets. Available with or without sliding steel doors; also with rolling casters or legs with adjustable glides.

#### LO-LEVEL MODELS

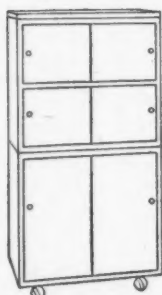


NO. 5R7ZA00  
29 3/4" wide X 16" deep X 25 1/4" high



NO. 5R7ZE00

#### HI-LEVEL MODELS



NO. 5R7ZCZF  
29 3/4" wide X 16" deep X 48" high (base) 46 3/4" (casters)



NO. 5R856ZG

nescent lighting, the panel itself is the source of illumination.

The exit lamps are available in a variety of mounting methods, and some units have double faces. The lamps are furnished with either cutout metal letters or all glass face plates. Hinged face plate doors can be opened and closed without tools.

For more information, circle number 822 on the Reader Service Card.



### Bus station trucks

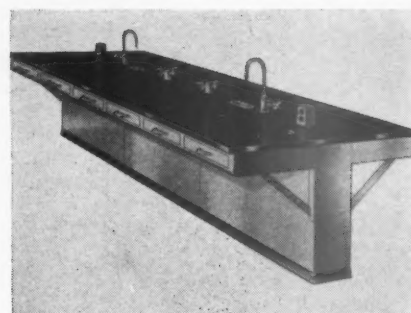
A stainless steel bussing station truck by Jarvis & Jarvis comes complete with three heavy-duty plastic boxes for dishes and silver. The lightweight boxes are 5 1/2 inches deep, and 21 by 15 1/2 inches at the top. The truck itself has 5-inch swivel-type casters and features all-welded construction.

For more information, circle number 889 on the Reader Service Card.



### Laboratory tables

Unobstructed knee space and modern appearance are features of a laboratory table being introduced by Metalab, Inc.



The tables are securely anchored to the floor, and all service piping and wiring, though concealed in the structural island, is accessible for maintenance.

The model shown, 12 feet long, will accommodate six students on each side.

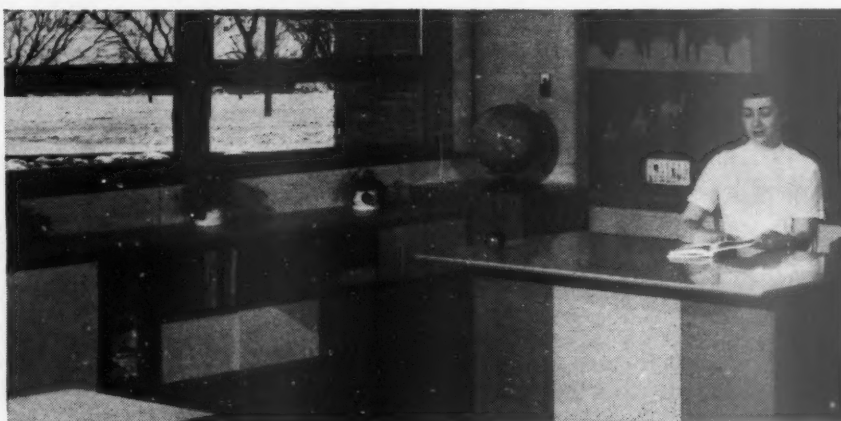
For more information, circle number 865 on the Reader Service Card.



### Speech therapy unit

Thirty-one tapes and a specially designed tape recorder are the principle elements of a speech therapy system developed by Electronic Teaching Laboratories. The system is designed for use by qualified speech pathologists.

Called the Monitor system, the



## HONOR Classroom Cabinets

*offer unexcelled flexibility at moderate cost!*

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equipment has been tested in five schools in controlled experiments. With the machine, students work on their speech without the continuing presence of the therapist.

For more information, circle number 868 on the Reader Service Card.

■ ■ ■

### Transparent model

The skeletal structure, nervous system, organs and other major features of the human body are included in this six-foot model manufactured by Arin Testaguzza Co.

The model is made of plastic and fiberglass. Much of the model is wired for lighting, controlled by an independent unit.

A series of taped lectures accompanies each figure. Each lecture is about 30 minutes long and covers a basic function or system, such as respiratory, circulatory or digestive.

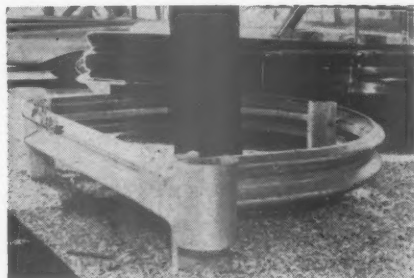
For more information, circle number 811 on the Reader Service Card.

■ ■ ■

### Parking guardrail

A light-gauge guardrail for marking the extremities of parking lots and protecting trees is being marketed by Armco Drainage & Metal Products, Inc.

The rail is galvanized on both sides and does not need painting for weather protection. It is supplied in 12½- or



25-foot lengths. A single bolt holds the sections to timber, concrete or steel posts.

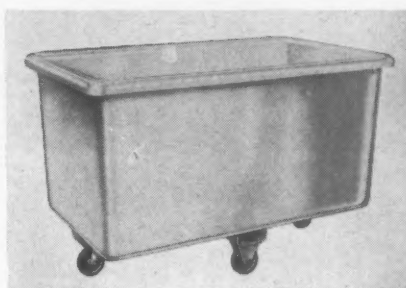
For more information, circle number 824 on the Reader Service Card.

■ ■ ■

### Fiberglass trucks

Lightweight fiberglass box trucks for handling bulky items are being manufactured by the Hamilton Caster & Mfg. Co. Three sizes, from 16 to 21 cubic feet, are being offered.

The box trucks resist corrosion from water, oil and mild acids or alkalis. They have rounded corners to prevent dust and dirt accumulation. The



tapered design of these trucks permits them to be nested when empty.

For more information, circle number 823 on the Reader Service Card.

■ ■ ■

### Corridor lighting

Fluorescent corridor lighting fixtures designed for general areas where a high level of illumination is not required, such as corridors, has been developed by the Westinghouse Electric Corp. Each fixture has a single lamp enclosed in plastic.

The fixtures can be installed directly on the ceiling or suspended.

Fluorescent lamps are available in four- and eight-foot lengths. The entire unit is designed so that the housing can be easily removed, but not accidentally dislodged.

For more information, circle number 800 on the Reader Service Card.

■ ■ ■

### Colorful mural map

A full color map of the world, developed especially for wall covering, comes in four sizes on heavy stock with waterproof inks. Marketed by the American Map Co., it is suitable for corridors, offices and classrooms. Standard wallpapering methods are used to put the maps up.

For more information, circle number 837 on the Reader Service Card.

■ ■ ■

### Reversible window

Single and double glazing units of a reversible window have been developed by Albro Metal Products Corp. The window is weather-stripped with vinyl plastic, and comes in an aluminum or bronze frame with reinforced corners.

The window rotates a full 360 degrees on a vertical axis. It can be latched automatically at 180 degrees, but hold-open arms can fix the window at other positions.

For more information, circle number 899 on the Reader Service Card.

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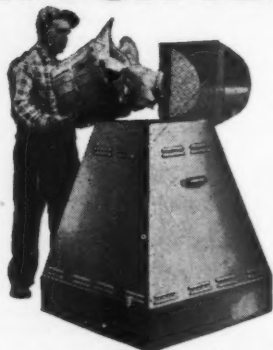
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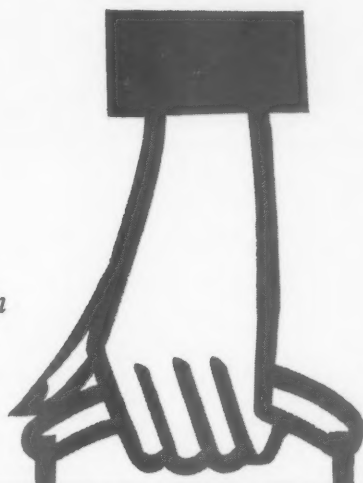
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